

NOTES ON THE ETHIOPIAN FRUIT-FLIES OF THE FAMILY  
TRYPANEIDAE, OTHER THAN DACUS.—III.\*

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(PLATES XVII–XVIII.)

The new material received from the Imperial Bureau of Entomology through the kindness of the Director, Dr. G. A. K. Marshall, enables me to prepare this third paper on the Ethiopian fruit-flies. It is a proof of the great richness of the African Trypaneid fauna that of over 41 species received only 10 were referable to previously described species, and that no less than 8 new genera have been erected, most of them for very strikingly characterised forms.

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The TRYPANEIDAE at present known from the Ethiopian Region, with the addition of the new forms here described for the first time, are enumerated in the following systematic catalogue, which numbers 216 species.

I. Subfamily DACINAE.

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|--|---|
| 1. TRIDACUS, Bezzi.                                    | oleae, Gmel.                                    |
| lounsburyi, Coq.                                       | mesomelas, Bezzi.                               |
| sphaeristicus, Speis.                                  | semisphaereus, Beck.                            |
| fuscovittatus, Grah.                                   | blepharogaster, Bezzi.                          |
| armatus, F.  | rufus, Bezzi.                                   |
| fuscatus, Wied.  | annulatus, Beck.                                |
| nebulosus, Walk.                                       | erythraeus, Bezzi.                              |
| d'emmerzi, Bezzi.                                      | mochii, Bezzi.                                  |
| bivittatus, Big. ( <i>pectoralis</i> , Walk. ;         | woodi, Bezzi.                                   |
| <i>bipartitus</i> , Grah. ; <i>cucumarius</i> , Sack ; | macer, Bezzi.                                   |
| <i>armatus</i> , Bezzi).                               | immaculatus, Coq.                               |
| momordicae, Bezzi ( <i>bipartitus</i> , Bezzi).        | brevis, Coq.                                    |
| eburneus, Bezzi.                                       | fieicola, Bezzi.                                |
| xanthopterus, Bezzi.                                   | bistrigulatus, Bezzi.                           |
| humeralis, Bezzi.                                      | brevistriga, Walk.                              |
| disjunctus, Bezzi.                                     | brevistylus, Bezzi.                             |
| flavicus, Grah.  | vertebratus, Bezzi.                             |
| scaber, Loew.  | binotatus, Loew.                                |
| stylifer, Bezzi.                                       | bistrigatus, Loew.                              |
| punctatifrons, Karsch.                                 | ciliatus, Loew.                                 |
|  | sigmoides, Coq.                                 |
| 2. DACUS, F.   | africanus, Adams.                               |
| hamatus, Bezzi.  | sexmaculatus, Walk.                             |
| trigonus, Bezzi.                                       | longistylus, Wied. ( <i>testaceus</i> , Macq. ; |
| inornatus, Bezzi ( <i>modestus</i> , Bezzi).           | <i>kingi</i> , Frogg.).                         |

II. Subfamily ADRAMINAE.

- |                            |                       |
|----------------------------|-----------------------|
| 3. MERACANTHOMYIA, Hendel. | 4. SOSIOPSILO, Bezzi. |
| antennata, Hend.           | trisetosa, Bezzi.     |

\* For Part I, see Bull. Ent. Res. viii, pp. 215–251 ; for Part II, *ibidem* ix, pp. 13–46.  
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## III. Subfamily CERATITINAE.

5. COELOPACIDIA, End.  
strigata, Bezzi.  
melanostigma, Bezzi.  
madagascariensis, End.

6. CONRADTINA, End.  
longicornis, End.  
acrodiauges, Speis.  
acroleuca, Wied.  
suspensa, Bezzi.

7. CELIDODACUS, Hendel.  
obnubilus, Karsch (*apicalis*, Hendel.).  
coloniarium, Speis.

8. CARPOPHTHOROMYIA, Austen.  
vittata, F.  
scutellata, Walk.  
tritea, Walk.  
pseudotritya, Bezzi.  
superba, Bezzi.

9. LEUCOTAENIELLA, Bezzi.  
guttipennis, Bezzi.  
trispila, Bezzi.  
pentaspila, Bezzi.

10. CHELYOPHORA, Rondani.  
magniceps, Bezzi.

11. BISTRISPINARIA, Speiser.  
fortis, Speis.

12. CLINOTAENIA, Bezzi.  
grata, Wied.  
anastrephina, Bezzi.

13. CERATITIS, McLeay.  
capitata, Wied.  
catoirii, Guér.

14. PTERANDRUS, Bezzi.  
anona, Grah. (*pennipes*, Bezzi).  
colae, Silv.  
rosa, Karsch.  
fasciventris, Bezzi.  
rubivorus, Coq.  
volucris, Bezzi.  
? penicillatus, Big.

15. PARDALASPIS, Bezzi.  
morstatti, Bezzi.  
punctata, Wied.  
brêmei, Guér.  
melanaspis, Bezzi.  
cosyra, Walk. (*giffardi*, Bezzi).  
silvestrii, Bezzi.  
senegalensis, Macq.  
antistictica, Bezzi.  
flexuosa, Walk.  
quinaria, Bezzi.  
stictica, Bezzi.  
aliena, Bezzi.

16. PERILAMPIS, Bezzi.  
pulchella, Austen.  
formosula, Austen.

17. HOPOLOPHA, Bezzi.  
cristata, Bezzi.

18. TRIRHITHRUM, Bezzi.  
lycii, Coq.  
nitidum, v. Röd.  
albonigrum, End.  
validum, Bezzi.  
nigrum, Grah. (*obscurum*, End.).  
gagatinum, Bezzi.  
occipitale, Bezzi.  
bimaculatum, v. Röd.  
nigerrimum, Bezzi.  
leucopsis, Bezzi.  
inscriptum, Grah. (*coffea*, Bezzi).  
? albomaculatum, v. Röd.

19. XANTHORRHACHISTA, Hendel.  
alata, Beck. (*cephalia* Hendel.).

20. THEMARICTERA, Hendel.  
flaveolata, F.  
rufipennis, Hend.  
laticeps, Loew.

21. THEMARA, Walker.  
fallacivena, End.

22. BARYGLOSSA, Bezzi.\*  
histrion, Bezzi.

23. PTILONIOLA, Hendel.  
neavei, Bezzi.  
preussi, Hend.  
tripunctulata, Karsch.  
(NOV. GENUS.)  
guttatolimbata, End.

24. RHACOCOLAENA, Loew.  
fasciolata, Loew.  
pulchella, Bezzi.  
hammersteini, End.

25. PHORELLIA, R. Desv.  
brunithorax, R. D.  
tristriata, Karsch.

26. TAOMYIA, Bezzi.  
marshalli, Bezzi.  
ocellata, Lamb.

27. NOTOMMA, Bezzi.  
bioculatum, Bezzi.  
(NOV. GENUS.)  
jucunda, Loew.

28. ACIDIA, R. Desv.  
seychellensis, Lamb.  
fossataeformis, Bezzi.  
homogenea, Bezzi.

29. "OCNEROS," O. G. Costa.  
mundus, Loew.  
excellens, Loew.  
sinuatus, Loew.  
undatus, Bezzi.  
bigemmatum, Bezzi.

\* The genus *Cladoderris*, Bezzi, is better placed in the ORTALIDAE, and will be dealt with in a forthcoming paper on this family.

III. Subfamily CERATITINAE.—*cont.*

30. OCNERIOXA, Speiser.  
 pennata, Speis.  
 woodi, Bezzi.  
 discreta, Bezzi.  
 gracilis, Loew.

31. TEPHRITIS, Latr.  
 indecōra, Loew.  
 vernoniicola, Bezzi.

32. CARPOMYIA, A. Costa.  
 incompleta, Beck.

33. CRASPEDOXANTHA, Bezzi.  
 marginalis, Wied.  
 manengubae, Speis.

34. TERELLIA, R. Desvoidy.  
 ? hysia, Walk.

35. ALLOTRYPES, Bezzi.  
 brevicornis, Bezzi.

36. ACIURA, R. Desv.  
 perspicillaris, Bezzi.  
 angusta, Loew.  
 semiangusta, Bezzi.  
 caeca, Bezzi.  
 oborinia, Walk.  
 tetrachaeta, Bezzi.  
 capensis, Rond.  
 ternaria, Loew.  
 binaria, Loew.

37. SPHENISCOMYIA, Bezzi.  
 sexmaculata, Macq.  
 neavei, Bezzi.

38. TEPHRELLA, Bezzi.  
 bezziana, End.  
 nigricosta, Bezzi.  
 cyclopica, Bezzi (*w. fuscum*, End.).  
 tephronota, Bezzi.  
 rufiventris, Bezzi.  
 sexfissata, Beck.  
 hessii, Wied.

## IV. Subfamily TRYPANEINAE.

39. PLATENSINA, Enderlein.  
 diaphasis, Big.

(NOV. GENUS).

lunifera, Loew.

40. EUTRETOSOMA, Hendel.  
 oculatum, Hend.  
 frauenfeldi, Schin.  
 bipunctatum, Loew.  
 millepunctatum, Bezzi.  
 polygramma, Walk.

41. ELAPHROMYIA, Bigot.  
 adatha, Walk. (*melas*, Big. ; *ulula*, Loew).

42. SPATHULINA, Rondani.  
 semiatra, Loew.  
 bioculata, Bezzi.  
 parceguttata, Beck.  
 acrosticta, Bezzi.  
 aldabrensis, Lamb.  
 margaritifera, Bezzi.

43. PLIOMELAENA, Bezzi.  
 brevifrons, Bezzi.  
 strictifrons, Bezzi.

44. EUARESTA, Loew.  
 planifrons, Loew.  
 amplifrons, Bezzi.

45. ENSINA, R. Desv.  
 sororcula, Wied.  
 gladiatrix, Bezzi.  
 myiopitoides, Bezzi.  
 anceps, Loew.  
 magnipalpis, Bezzi.  
 dubia, Walk.

ignobilis, Loew.  
 siphonina, Bezzi.

46. EURIBIA, Meigen.  
 perpallida, Bezzi.  
 discipulchra, Bezzi.  
 praetexta, Loew.  
 caffra, Loew.  
 dissoluta, Loew.  
 tristrigata, Bezzi.  
 cyana, Walk.

47. CAMPIGLOSSA, Rondani.  
 perspicillata, Bezzi.

48. CAMAROMYIA, Hendel.  
 acrophthalma, Bezzi.  
 ? helva, Loew.

49. ACANTHIOPHILUS, Becker.  
 helianthi, Rossi.  
 ? ochraceus, Loew.

50. TRYPANEA, Schrank.  
 subcompleta, Bezzi.  
 hemimelaena, Bezzi.  
 peregrina, Adams (*urophora*, Bezzi).  
 augur, Frauent.  
 tristicula, Hend. \*  
 auguralis, Bezzi.  
 hexapoda, Bezzi.  
 confluens, Wied.  
 aucta, Bezzi.  
 repleta, Bezzi.  
 aira, Walk.  
 amoena, Frauent.  
 decora, Loew.  
 diversa, Wied.

\* This recently described species was erroneously included by Prof. Hendel in his great work on the South American Trypaneids, 1914, p. 82 ; but it is from Mozambique, and was accidentally omitted by me in my previous paper ; it is very near *augur*, has about the same wing pattern, and has likewise only two scutellar bristles.

## V. Subfamily SCHISTOPTERINAE.

51. PERIRHITHRUM, Bezzi.  
marshalli, Bezzi.

52. RHABDOCHAETA, de Meijere.  
spinosa, Lamb.  
neavei, Bezzi.

53. RHOCHMOPTERUM, Speiser.  
neuropteripenne, Speis.

54. SCHISTOPTERUM, Becker.  
moebiusi, Beck.

\* \* \* \* \*

The addition of the very interesting new genus which follows makes necessary a modification of the beginning of the table of genera in my first paper, p. 216, nos. 1-5, which may be modified as follows:—

- 1(6). Thoracic chaetotaxy incomplete, *hm.*, *prst.*, *dc.* and *st.* being always wanting (and also the *prsc.* in African forms).
- a(d)*. Arista bare; abdomen short and broad, usually broader than the thorax; wings with the first three longitudinal veins closely approximated, the anterior cross-vein long and oblique, the second basal cell dilated and the anal cell drawn out into a very long point .. Subfam. DACINAE.
- b(c)*. Only two *sa.* present, the anterior one being entirely wanting  
*Dacus*, F. (*s. str.*).
- c(b)*. Three *sa.*, the anterior one being well developed .. .. *Tridacus*, Bezzi.
- d(a)*. Arista plumose; abdomen long and linear, more narrow than the thorax; wings with the first three veins not approximated, the anterior cross-vein short and placed perpendicularly, the second basal cell not dilated and the anal cell with a short point .. .. Subfam. ADRAMINAE.
- e(f)*. Femora not spinose beneath; thoracic suture interrupted in the middle; antennae shorter than the face; point of the anal cell very short  
*Sosiopsila*, gen. nov.
- f(e)*. Femora spinose beneath; thoracic suture complete; antennae much longer than the face; point of the anal cell longer .. *Meracanthomyia*, Hend.

## II. Subfam. ADRAMINAE.

The present subfamily is here accepted in a wider sense than that attributed to it by Hendel in 1914, and corresponding to that adopted by me in 1916.\* The subfamily was believed to be almost exclusively Oriental; but the discovery of the following new form shows that it is probably well represented in the Ethiopian Region also.

**Sosiopsila**, gen. nov.

The present new genus seems to be allied to the Oriental *Neosophira*, Hendel (Gen. Insect., 76, pl. iii, figs. 57-59 and 64) and to *Colobostroter*, Enderlein (Zool. Jahrb., xxxi, p. 445, fig. T.), but is distinct in having well developed outer *vt.*, and also in having only a pair of *sc.* (the basal pair); on the wings the third longitudinal vein is not sinuous.

Head in front view more broad than high, a little broader than the thorax; occiput convex and prominent, with developed lower swellings; the head is attached to the thorax about in the same manner as described for the genus *Xanthorrhachista*.

\* Bull. Ent. Res., vii, October 1916, p. 120.

Eyes oval, less compressed, their vertical diameter being only a little longer than the horizontal one. Frons flat, not at all prominent in profile, with parallel sides, only a little longer than broad; lunula narrow, but much extended laterally; face flat in the middle, with shallow antennal grooves and with distinctly prominent mouth-border. Cheeks linear; jowls not broader than the breadth of the third antennal joint. Antennae inserted at the middle of the eyes, only a little shorter than the face; third joint pubescent, rounded at tip; arista plumose, its feathering being about as broad as the length of the third antennal joint. Proboscis short and thick, with very broad flaps, which cover the palpi. Cephalic chaetotaxy rather developed, only the *oc.*, *pvt.* and genal bristles being wanting; no *ocp.*; outer *vt.* half as long as the strong inner pair; one strong *s. or.*, and two pairs of long and distant *i. or.* Thorax elongate, with incomplete suture and reduced chaetotaxy; there are only two *npl.*, one *a.*, and two *p. sa.*, one *mpl.*, one *pt.*; the *scp.* are rudimentary, only the middle pair being distinct. Scutellum triangular, flat above, a little broader than long, distinctly carinate on the sides, with only the *b. sc.*, which are very long, strong and diverging. Abdomen narrow and long, of cylindrical shape, narrow at base but not properly pedunculate, in the male with 4, in the female with 5 segments; the last two segments bear some strong bristles at the sides behind. Male genitalia small and rounded; ovipositor short, depressed, with the basal segment as long and nearly as broad as the terminal segment of the abdomen, and with the apical segment much narrower and acute. Legs long and simple, with non-spinose femora, even the front pair being without bristles below; middle femora elongate, as long as their tibiae, and a little thickened; middle tibiae with a single long spur at end; hind tibiae shorter than their femora, distinctly curved, with scattered bristles on the outer side; claws very short. Wings short and proportionally narrow, hyaline, with a broad black spot at apex. Costa densely ciliate, with no distinct bristle; auxiliary vein closely approximate to the first longitudinal vein, which ends at middle of the fore border, before the small cross-vein, and is pilose above. Second longitudinal vein straight; third bristly throughout its whole length and slightly curved but not sinuous; last segment of the fourth vein slightly diverging at end; small cross-vein a little beyond the middle; hind cross-vein straight and perpendicular,  $2\frac{1}{2}$  times as long as the small one; anal cell a little broader than the second basal cell, its inferior angle acute but not produced and shorter than the upper one; sixth vein reaching the hind border. Axillary lobe equal in the two sexes; alula longer than broad.

Type: the following new species:—

**Sosiopsila trisetosa**, sp. nov. (Pl. xvii, fig. 1).

A narrow and elongate, entirely yellow species not unlike a *Psila*, with a broad rounded black spot on the mesophragma, and with a broad black spot near the apex of the wing.

♂♀. Length of body, 6·5–7 mm.; of wing, 4·5–5 mm.; of ovipositor, 0·7 mm.

Head and its appendages completely yellow. Occiput shining, unspotted; frons more yellow, dull and finely pubescent in the middle, but with shining ocellar and vertical plates, the ocellar not being reddish brown, like the upper border of the lunula. Face shining in the centre; cheeks and jowls with a faint whitish dust,

like the lower occipital swellings. All the cephalic bristles are yellowish, only the *vt.* and the *s. or.* being a little darker. Thorax entirely yellow; darker, less shining and punctulate on the dorsum, lighter, more shining and smooth on the pleurae; the very short and scattered pubescence of the dorsum is yellowish, like all the macrochaetae, only the *p. sa.* being darkened, chiefly the interior one; the pleurae have only sparse and very thin pale yellowish hairs on hind border of meso- and on upper border of sternopleura. The scutellum is coloured like the mesonotum and shining; it bears some pale yellowish hairs, while its macrochaetae are black. The mesophragma is shining yellow, but it has in the middle a broad, rounded, shining black spot, which is prolonged above in the middle of the postscutellum. Halteres and squamulae pale yellowish, the latter with a pale fringe. Abdomen shining yellow like the mesonotum and similarly punctate, with longer and denser pale yellowish pubescence; its terminal macrochaetae are black; venter yellow. Male genitalia shining yellow and yellowish pubescent; the ovipositor likewise. Legs entirely yellow, with pale pubescence and pale hairs, only the spurs of the middle tibiae being black; the middle femora have below in the middle three rigid long hairs, directed downwards, stronger and more bristly in the male than in the female. Wings quite hyaline and strongly iridescent; the veins are yellow, with blackened ends, but the whole costa (with its ciliation) is black; the costal cell is yellowish, and the short and narrow stigma dark yellow. The black apical spot is attached to the costa by its base, which extends from the end of the second to the end of the third vein; it is continued inwardly, crossing the third vein and ending roundly on the fourth vein; the end of the first posterior cell is therefore completely hyaline, while the end of the submarginal cell is broadly black. In the female the apical spot extends only to the middle of the first posterior cell, without reaching the fourth vein; but even in the male the part of the spot placed beyond the cubital fold is lighter.

Type ♂ and type ♀, a single pair of specimens from Portuguese East Africa, E. of Mt. Mlanje, 21-23, xi., 1913 (*S. A. Neave*); an additional female specimen from Nyasaland, Mt. Mlanje, 8.x.1913 (*S. A. Neave*).

### III. Subfam. CERATITINAE.

In the new material are present some very important species, which belong to the two genera *Coelopacidia* and *Celidodacus*, previously unknown to me; they may be comprised in my table of the genera on p. 216, just after no. 8 (67), as follows:—

A(B). *Prst.*, *dc.* and *st.* wanting; face very concave in the middle; arista bare; femora not spinose beneath; third longitudinal vein bristly throughout its whole length .. .. . *Coelopacidia*, End.

B(A). The above-named bristles present, or at least not all wanting at the same time; face flat or even convex in the middle.

9(10). Femora spinose beneath; arista shortly plumose; third longitudinal vein with only a few bristles near its extreme base.

a(b). Wings very broad, with the second and third longitudinal veins sinuous, the last portion of the third being moreover bent downwards at the end.

*Conradtina*, End.

b(a). Wings narrower, with the above-named veins not sinuous and with the last portion of the third straight .. .. . *Celidodacus*, Hend.

**Coelopacidia**, Enderlein, 1911.

This genus was placed by its author near *Acidia*, while in Prof. Hendel's table it comes near *Platyparea*. I have before me two species, which agree in the form of the body and head, and in the reduced wing pattern, with the description of Dr. Enderlein; but the author has not described the chaetotaxy, which is very reduced in the species before me.

The systematic position of the genus is dubious. In the want of *prst.*, *dc.*, *prsc.* and *st.* it agrees with the DACINAE and ADRAMINAE, but differs from them in the presence of the *hm.* Owing to this last character, the presence of distinct *ocp.* and to the presence of bristles on the underside of the front femora, I prefer to locate the genus at the beginning of the CERATITINAE, as a connecting link between this subfamily and the ADRAMINAE.

I have not seen the genotype, *C. madagascariensis*, End., but I will give here a characterisation of the genus drawn from the two continental species at hand.

Head in front view about as broad as high, not broader than the thorax; occiput convex and prominent, with developed but not sharply differentiated lower swellings; neck inserted just below the middle of the occiput, which bears a tubercle above it. Frons distinctly concave in the middle, parallel-sided, about twice as long as broad; lunula very narrow and not extended at sides. In profile the eyes are much rounded, their vertical diameter being only a little longer than the horizontal one; they are higher above than the middle of the hollowed frons, while in front the frons is prominent as a distinct conical protuberance, which bears the antennae. Face deeply hollowed in the middle, without median keel and with undifferentiated antennal grooves, but distinctly prominent below at the mouth-border; cheeks linear; jowls as broad as the breadth of the third antennal joint. Antennae inserted at middle of the eyes; in consequence of the protuberance of the fore part of the frons and of the excavation of the face, they are rather porrect; third joint rounded at tip, bare, not reaching the mouth; arista long, thin, with very short scattered pubescence. Proboscis short and thick; palpi less clavate and shortly setulose. Cephalic chaetotaxy reduced; *ocp.* reduced to some thin acute yellowish bristles; *prt.* very short, thin, almost indistinct; no *oc.*; four *vt.*, the inner pair not much longer than the outer one; one *s. or.*, erect and directed backwards, placed near the middle of the frons, at the front end of the long narrow curved ill-differentiated vertical plates; one *i. or.* just above the lunula, directed inwards and decussate; genal bristle thin and short. Thorax elongate, with the suture narrowly interrupted in the middle; *scp.* long and strong, those of the middle pair approximate; two *npl.*; one *a. sa.* and two *p. sa.*; one *mpl.*; no distinct *pt.* and no *st.* Scutellum flat, triangular, as long as broad, with lateral keels and with two pairs of strong bristles, the apical ones parallel and not much weaker. Abdomen elongate, narrower than the thorax, of linear shape, being as broad at end as at base; there are 4 segments in the male and 5 in the female, but the sutures are not very distinct; last segment with some macrochaetae at hind border in both sexes; male genitalia rounded and concealed; ovipositor with the basal segment depressed, triangular, obtuse, as long as the last two abdominal segments together; apical segment narrow, acute. Legs slender; front femora with only one bristle below near the end, middle femora distinctly thickened, shorter than their tibiae, which bear two equally strong spurs

at the end; hind tibiae straight, shorter than the femora, with some short bristles on outer side; claws short. Wings long, hyaline, with a very small apical black spot. Costa not ciliated, shortly pilose, without bristle; auxiliary vein closely approximated to the first vein, which is pilose and ends before or opposite to the small cross-vein; second and third vein straight and diverging at their ends, the third bristly throughout; small cross-vein beyond the middle of the discoidal cell; hind cross-vein straight and perpendicular; last segments of the third and fourth veins parallel; second basal cell not dilated, but very long; sixth vein produced to the hind border; anal cell not broader than the second basal cell, its lower angle drawn out into a point which is rather long, but is always shorter than the second basal cell; axillary lobe equal in the two sexes; alula longer than broad.

The known species may be distinguished as follows:—

- 1(2). Front femora with some bristles below near the end; wings without black apical spot, but with a dark border to the hind cross-vein  
*madagascariensis*, End.
- 2(1). Front femora with only one bristle below; wings with a black apical spot, but the hind cross-vein not or less infuscated.
- 3(4). Thorax on the dorsum with a whitish pollinose, longitudinal, middle stripe; wings with yellow stigma and with a slightly infuscated hind cross-vein  
*strigata*, sp. nov.
- 4(3). Thorax not striped; wings with black stigma and the hind cross-vein not infuscated .. .. .  
*melanostigma*, sp. nov.

#### ***Coelopacidia strigata*, sp. nov.**

An elongate, entirely yellow species, distinguished by the whitish thoracic stripe and the yellow pterostigma.

♂♀. Length of body 9–9.5 mm.; of ovipositor 1 mm.; of wing 8–8.5 mm.

Head entirely yellow, unspotted, only the very small ocellar dot being black. Occiput very shining and bare, except for a few short hairs near the neck and on the lower part; frons wholly glistening, quite bare, with the front part slightly reddish above the lunula, the upper border of which is narrowly brown. Face very glistening; cheeks and jowls not pruinose. Antennae entirely yellow, even on the apical part of the last joint; second joint short and nearly bare; third joint about twice as long as broad; arista yellowish. Palpi pale yellowish; proboscis dirty reddish, with pale hairs. Of the cephalic bristles the two pairs of *vt.* and the *s. or.* are black, the thin *pvt.* and the *ocp.* are yellowish, like the *i. or.* and the genal bristle; the sparse and short hairs of the lower part of the occiput are pale yellowish. Thorax entirely yellow and shining; but the dorsum, being punctulate, is less shining than the very glistening pleurae, which are moreover of a paler colour; the whitish pollinose middle stripe is broad, but only distinct when the thorax is viewed from in front; this stripe begins just beyond the the middle *scp.* and ends before reaching the scutellum broadening gradually behind. The very short and sparse pubescence of the dorsum is pale yellow, while the pleurae are quite bare, with only a few, hardly visible, thin and whitish hairs on the mesopleura. Scutellum entirely glistening yellow, bare, with some scattered pale hairs at the hind border. All the macrochaetae of the thorax and scutellum are black. Postscutellum and



mesophragma shining yellow, the latter more or less reddish in middle or on upper border. Squamulae very small, with sparse and short pale hairs at border; halteres pale yellowish, with more reddish knob. Abdomen entirely shining yellow; but there is a narrow dark longitudinal stripe along the middle of the two basal segments, rather faintly marked; the pubescence is more dense than that of the thorax, but is always short and yellowish; the apical macrochaetae are black. The venter is shining yellow in the middle, whitish dusted on the sides. Male genitalia shining yellow, with pale pubescence; ovipositor shining yellow, with very short and sparse pubescence. Legs entirely shining yellow, with more reddish tarsi; their sparse pubescence is pale, but the bristles of the femora and tibiae are black, like the apical spurs of the middle tibiae; the middle tibiae have a longitudinal row of three rather strong black bristles towards the middle of the posterior side; the hind tarsi are ciliated below, chiefly on the praetarsi; the claws are black, the pulvilli whitish. Wings yellowish-hyaline, very shining and iridescent; costa and veins yellowish, but the thickened basal part of the first longitudinal and the common stem of the second and third, are black; the cross-veins and the ends of the longitudinal veins are blackish; the stigma is entirely yellow. The apical dark spot is small, extending symmetrically on both sides of the end of the third longitudinal vein, along the wing border; it is broader in the female than in the male. The infuscation of the hind cross-vein is very small and faintly indicated, sometimes even indistinct. The first longitudinal vein ends in the costa a little, but distinctly, before the small cross-vein.

Type ♂ and type ♀, a couple of specimens from Nyasaland, Limbe, Chiromo, Ruo R., 22.ix.1916 (*R. C. Wood*).

#### **Coelopacidia melanostigma**, sp. nov.

Closely allied to the preceding species, but differing in some particulars of the coloration and in the longer third antennal joint.

♂. Length of body 8.5 mm.; of wing 7.5 mm. Head and its appendages exactly as in *C. strigata*, but the *pvt.* more developed and blackish; the third antennal joint is distinctly longer and reaches the mouth-border, being about 2.5 times as long as broad. Thorax, scutellum and halteres as in the preceding species, but there is no trace of the whitish middle stripe; there is moreover a small but distinct *pt.*, which is not to be seen in *C. strigata*. Abdomen the same, with the basal stripe blacker and more sharply defined. The wings likewise, but the stigma is entirely of a deep black colour; the first longitudinal vein ends opposite to the small cross-vein, not before it; the apical dark spot is similarly shaped, but there is no trace of the infuscation of the hind cross-vein. The legs are identical.

Type ♂, a single specimen caught in the same locality and on the same day as the specimens of *C. strigata*, from which it is certainly distinct (*R. C. Wood*).

#### **Conradtina acrodiauges**, Speiser, 1913 (Pl. xvii, fig. 2.)

A couple of specimens of this characteristic fly from S. Nigeria, Ibadan, 29.xi.1913—20.i.1914 (*Dr. W. A. Lamborn*).

**Celidodacus**, Hendel, 1914.

Prof. Hendel has differentiated the present genus from *Conradtina* only on account of the wing pattern; the chaetotaxy of the head and thorax seems to be the same in both genera; but I think that the form of the wings and the shape of the second and third longitudinal veins can be regarded as sufficient for generic separation.

I have before me what I believe to be the genotype, named *apicalis*, but not described, by Prof. Hendel; I think that it is the same as *Acidia obnubila* of Karsch, even though the latter author does not mention the spines on the underside of the femora. A close ally of this species seems to be *Acidia coloniarum*, Speiser, which has a different wing pattern, having an isolated dark band across the small cross-vein.

I will give here a characterisation of the genus *Celidodacus*, with some additional notes on the type-species.

Head in front view distinctly broader than high. Occiput rather flat above and less prominent below, the lower swellings being not developed. Eyes rounded, with the vertical diameter longer than the horizontal one. Frons flat, parallel-sided, 1.5 times longer than broad; in profile it is only a little prominent above the root of the antennae; lunula very small. Face convex in the middle, with broad antennal grooves; mouth-border prominent; cheeks linear; jowls narrow. Antennae inserted a little above the middle of the eyes, with the third joint acute but rounded at tip, long, extending a little beyond the mouth-border; arista plumose, the breadth of the feathering being equal to the breadth of the third antennal joint towards the middle. Proboscis short and thick; palpi broad and bristly. Cephalic bristles strongly developed; *ocp.* acute and black; two *vt.*, the inner pair longer; *pvt.* well developed; no *oc.*; two *s. or.* and three *i. or.*; genal bristle well developed; there is also a bristle towards the middle of the lower part of the occiput. Thorax broad and stout, with complete and strongly developed chaetotaxy; *scp.* long, those of the middle pair not approximated; the *dc.* pair is placed much behind; two *mpl.*; *pt.* strong. Scutellum triangular, as long as broad, flat above, with lateral keels and four long strong bristles. Abdomen with 4 segments in the male and 5 in the female, narrowed at base, about as broad as the thorax in the middle, with terminal bristles; male genitalia small; ovipositor short and broad, depressed. Legs short and stout, all the femora spinose beneath, but those of the hind pair less so than the others; middle femora thickened; middle tibiae with a single spur at the end; hind tibiae with less developed posterior row of bristles. Wings proportionately narrow, with well developed pattern. Costa not ciliated and without bristle; auxiliary vein stout and well separated; first longitudinal vein ending before the middle of the costa and before the small cross-vein; second vein a little sinuous; third bristly throughout, straight on its last portion and diverging from the fourth; small cross-vein much beyond the middle, placed on the last third of the discoidal cell; hind cross-vein straight; sixth vein reaching the hind border; point of the anal cell acute, as long as the second basal cell; axillary lobe broad; alula rounded.

**Celidodacus obnubilus**, Karsch, 1887; (*apicalis*, Hend., 1914). (Pl. xvii, fig. 4).

A robust species, at once distinguished an account of the peculiar coloration of the thorax and wings.

♂ ♀. Length of body 7.5–8 mm. ; of ovipositor 1 mm. ; of wing 6.5–7 mm.

Head entirely reddish yellow, only the small ocellar dot being black ; frons opaque and with scattered hairs in the middle, shining at vertex and on vertical plates ; antennae entirely yellowish, with the third joint three times as long as broad ; palpi and proboscis yellowish. All the cephalic bristles are black. The rather opaque thorax has in the middle of the dorsum two broad longitudinal stripes of whitish dust, which are visible only in certain lights ; on their outer border there is on each side a small black stripe, which is sometimes wanting ; the middle brown stripe, as described by Karsch, is formed only by the space between the two whitish stripes. Very characteristic is the white, black-margined stripe on the notopleural line. All the bristles are black, and the short pubescence of the dorsum is likewise black. Scutellum like the mesonotum, with short and sparse pubescence on the sides. Pleurae shining, with soft thin pubescence. Squamulae and halteres whitish. Mesophragma and postscutellum shining black, but sometimes reddish or yellowish. Abdomen above either entirely shining black, or with the first two segments more or less broadly yellowish ; the pubescence is blackish, the bristles black. Male genitalia shining black, ovipositor shining black, sometimes reddish brown towards the middle. Legs entirely yellow, with black bristles, spines and spurs ; front femora with two rows of 5–6 spines each near the end, middle femora with 7–8, hind femora with 4–5 much smaller ones. Wing pattern, as figured and described by Karsch, the apical hyaline spot being whitish, as stated by Hendel. The stigma is entirely black. Sometimes there is a small subhyaline dot in the dark base of the first posterior cell, near the fourth vein. The veins are yellowish on the hyaline parts, and blackish on the dark parts.

Originally described from Pungo Andongo, and recorded subsequently from S. Nigeria, the species seems to be widely distributed in Central Africa, from East to West. There are some specimens of both sexes from S. Nigeria, Ibadan, 29.xi.1913 (*Dr. W. A. Lamborn*); from Nyasaland, Mt. Mlanje, 15.iii.13–viii.1913 (*S. A. Neave*) ; from Chintechi, Lake Nyasa, ii. 1913 (*J. G. Morgan*).

The other species, *C. coloniarum*, Speiser, has likewise a wide range, extending from the East to the West Coast.

\* \* \* \* \*

As important additions have to be made to the forms grouped around the old genus "*Ceratitis*," a modification of my table on pp. 217–218 in my previous paper is rendered necessary, beginning with no. 17 (28), as follows :—

17(28). Middle *scp.* well developed ; legs short and stout ; wings of broader shape ; head not balanced.

18(19). Antennae short, with the third joint distinctly pointed at end, and with the second joint prominent and spinulose ; arista long plumose ; usually three *i. or.* present ; genal bristle very strong.

A (B). Basal segment of the costa destitute of bristles before the costal one ; basal dark band of the wings perpendicular, beginning at stigma

*Chelyophora*, Rond.

B (A). Basal segment of costa provided with two groups of strong bristles before the costal one ; basal band oblique, beginning beyond the stigma

*Bistrispinaria*, Speis.

- 19(18). Third antennal joint rounded at end.
- 20(21). Antennae very short, with the second joint prominent above and densely spinulose; basal dark band of the wings oblique, beginning at fore border beyond the stigma; costal bristle long and strong, as in the preceding genera, like the genal bristle .. *Clinotaenia*, gen. nov.
- 21(20). Antennae less shortened, with the second joint not prominent, never spinulose above; basal band perpendicular, beginning at stigma; costal bristle short and less developed; genal bristle much less developed.
- A (B). Head, in side view, less shortened, the eyes being therefore more rounded; thorax and scutellum prevalently yellowish or reddish, or densely grey-dusted, with black spots (when the thorax is shining black, the scutellum is yellow and not spotted); wings with yellowish bands, which are only exceptionally broadly infuscated, and with blackish basal streaks; the band passing over the hind cross-vein is not, or only exceptionally, united with the basal one.
- 22(23). Arista with short pubescence, which is more distinct on the upper side; frons of the male with conspicuous spatulate appendages  
*Ceratitis*, MacLeay (*s. str.*).
- 23(22). Arista with longer pubescence or even with short plumosity, equally developed on both sides; frons of the male without such appendages.
- a(h)*. Frons flat, normally shaped, with rather thin *s. or.*, which are inserted on less distinct and less converging plates.
- b(c)*. Middle legs of the male broadly feathered, at least on the tibiae; wings with the dark marginal band separated from the basal one beyond the stigma .. .. . *Pterandrus*, Bezzi.
- c(b)*. Middle legs of male simple; marginal band typically united with the basal one.
- d(g)*. Scutellum rounded, swollen, without distinct lateral keels, more or less distinctly trilobate, black-spotted.
- e(f)*. A pair of well developed *oc.* present; first posterior cell not narrowed at end; fourth longitudinal vein ending much beyond the tip of the wing  
*Pardalaspis*, Bezzi.
- f(e)*. *Oc.* quite wanting; first posterior cell distinctly narrowed at end; fourth vein ending at tip of wing .. .. *Capparimyia*, gen. nov.
- g(d)*. Scutellum flat and bluntly triangular, with distinct lateral keels, entirely yellow, not spotted .. .. *Perilampus*, gen. nov.
- h(a)*. Frons with very stout *s. or.*, which are inserted on well developed and converging plates, which are besides in the male very prominent and cristate .. .. *Hoplolopha*, gen. nov.
- B (A). Head distinctly shortened in side view, the eyes being more narrow; thorax and scutellum shining black, sometimes with whitish markings, or even the scutellum white with black spots; wings with blackish bands radiating from the base, which is typically destitute of streaks; arista with long plumosity .. .. *Trirhithrum*, Bezzi.

**Leucotaeniella**, Bezzi, 1918.**Leucotaeniella guttipennis**, sp. nov. (Pl. xvii, fig. 3).

Very like *trispila* in the scutellar pattern, but distinct from it and from the other species on account of its peculiar wing pattern, which approaches that of the reticulate type.

♀. Length of body 6–6·5 mm. ; of ovipositor 1 mm. ; of wing 5–6·5 mm.

Head exactly as in *trispila*, but without the black ocellar dot, and the semi-circular spot in the middle of the frontal stripe is paler and less distinct. Thorax, scutellum and halteres as in *trispila* ; the black apical scutellar spot is less developed, being much smaller than the space between the apical pair of bristles, and not at all visible from above. Abdomen similar, but the ovipositor not darkened at end ; legs entirely similar. The wings in shape, coloration and venational characters are exactly as in *trispila*, but they show conspicuous differences in the pattern. This last in its general features is of the same type, but the middle and cubital bands are broadly fused together and even with the marginal and anal bands, forming thus a single broad patch filling up the apical two-thirds of the wing, interrupted by some rounded hyaline spots, which form a kind of broad reticulation. The basal band is broadly united with the anal one in the submarginal and first basal cells, thus forming a rounded hyaline spot in the marginal cell just below the stigma, and a hyaline indentation which ends above in the middle of the first basal cell. The stigma is blackish on the basal half, and almost hyaline in the apical one ; the second costal cell is hyaline, with the two ends narrowly infuscated. The anal band is broader, and infuscated on its lower part ; the marginal band has a broad hyaline spot before the end of the marginal cell (which shows therefore two broad hyaline spots), and another at wing border before the end of the submarginal cell, which has another hyaline spot in the middle just below but much smaller than the apical one of the marginal cell ; the first posterior cell is entirely infuscated, yellowish on the basal part and fuscous on the apical, with three rounded hyaline spots, two of which are in the middle (one behind the other), and one at the end in the lower apical corner just above the end of the fourth longitudinal vein and passing a little below it. The second posterior cell has two hyaline spots at the border with a less defined light (but not hyaline) space above them ; the discoidal cell has a rounded hyaline spot before its apex, united with the indentation of the third posterior cell. All these hyaline spots and indentations are broadly margined with fuscous ; but the hind cross-vein is entirely on the yellowish part, being nearer to the fuscous border of the spots of the second posterior cell than to that of the indentation of the discoidal cell.

Type ♀, a single specimen from N. Nigeria, Zungeru, 18.xi.1910 (*Dr. J. W. Scott Macfie*). An additional female specimen from the same locality and collector differs only in having three (instead of two) hyaline spots in the submarginal cell along the costa, a third (half as small) hyaline spot being present between the two spots of the type.

**Bistrispinaria**, Speiser, 1913.

Owing to the fact that the present very distinct genus was shortly characterised by Dr. Speiser as a section of *Ceratitis*, I will give here a more complete description of it. It is more closely allied to the genera *Chelyophora* and *Acroceratitis*, than to those that have been separated by me from *Ceratitis*, *s.l.*

Head in front view a little broader than high, and distinctly broader than the thorax; eyes rather narrow; lower occipital swellings much developed; jowls rather broad. Frons broader than the eye, as broad as long, a little concave before the ocelli. Antennae broadly separated from each other at base, inserted near the middle of the eyes, with the second joint very prominent and beset with strong spinules, with the third joint pointed at the end and reaching to the middle of the face; arista long plumose on both sides. Cephalic bristles long and strong, black; the two *s. or.* are placed on converging plates and the second is very stout, curved backwards and inserted over a small black tubercle; three strong *i. or.*; *oc.* very long and strong; *ocp.* black and well developed; genal bristle very long. Frontal stripe with only a few hairs towards the middle. Thoracic chaetotaxy complete; *dc.* placed a little before the line of the *a. sa.*; two *mpl.*; *pt.* long and strong. Scutellum rounded, convex, swollen, less distinctly trilobate, shining black, with four bristles and some stout whitish hairs above. Abdomen ovate, as broad as the thorax, acute at the end, bristly at hind border of the segments; male genitalia small. Legs stout, simple; front femora with a complete row of bristles beneath; middle tibiae with two spurs at end; hind tibiae without distinct posterior row. Wings rather long, with fuscous basal streaks and fuscous bands; basal band oblique, with its upper end beyond the stigma, united with the marginal band; middle band complete; cubital band isolated. Basal segment of costa with two groups of 2-3 erect spines each, the first placed just above the humeral cross-vein, the second just before the costal bristle, which is well developed. First longitudinal vein ending before the small cross-vein; second vein nearly straight; third vein a little curved about the middle of its last section, and then parallel with the fourth or slightly diverging, beset with scattered bristles to beyond the small cross-vein, which is placed near the middle of the discoidal cell; hind cross-vein long and rather sinuous, inwardly oblique, the lower angle of the discoidal cell being acute; discoidal cell about three times as long as the hind cross-vein; anal cross-vein deeply sinuous; the anal cell with a broad point, which is not longer than the second basal cell.

1. **Bistrispinaria fortis**, Speiser, 1913. (Pl. xvii, fig. 5).

A stout species, distinguished by its frons, antennae and legs.

♂ Length of body 5 mm.; of wing 6 mm.

Head entirely pale yellowish, opaque, with a dark brown subocular spot; face whitish, with a dark yellowish stripe at the mouth-border; frons with a darkish rounded middle spot. Antennae entirely yellowish, with the third joint distinctly darker; the spinules of the second joint are black and thick. Palpi whitish, with black bristles; proboscis yellowish. All the bristles are black, like the hairs on middle of the frons. The lower occipital swellings are whitish and clothed with white hairs. The thorax is blackish on the dorsum but densely grey-dusted and clothed with pale yellowish hairs; on the disc there are three narrow longitudinal darker stripes, the lateral ones being broadly interrupted at the suture; on the sides there are two broad, subquadrate, shining black, ill-defined spots; the humeri are yellowish; on the postalar calli there is a rounded, deep black, opaque spot. The pleurae are reddish brown, rather shining, with a whitish yellow patch on the upper border of the mesopleura, continued below the root of wings, and

there united with the double whitish hypopleural spot; the hairs of the pleurae are white on the whitish parts, and black on the dark parts. Postscutellum shining black; mesophragma reddish brown, but densely grey-dusted. Scutellum shining black, with a narrow middle longitudinal yellow stripe, and with a yellow stripe on each side; the bristles are black and the hairs pale yellowish. Halteres pale yellowish. Abdomen with black bristles and yellowish hairs; it is blackish, but grey-dusted, with a narrow whitish hind border to the segments. Legs pale yellowish, with the femora broadly infuscated and the four posterior tibiae darker on the basal half; bristles black. Wings whitish hyaline, with blackish basal streaks and with fuscous bands; veins black, but the costa and the first longitudinal vein whitish at the stigma. At the base there is a short blackish band, beginning at the humeral cross-vein; there is a blackish streak in each cell, broader and more sharply defined near the fore border; but the anal cell has no middle streak. Stigma whitish, with the base narrowly darkened. The first band is oblique, beginning at fore border just beyond the stigma, passing over the small cross-vein, and ending evenly and symmetrically at the end of the sixth vein. The costal band is united with the above-named band, extending below to the third vein and on the apical part passing even a little beyond it; it includes 6-7 darker dots along the fore border, being moreover narrowly hyaline near the costa. About at middle of the last section of the third longitudinal vein there arises from the costal band the middle band, which is narrow and oblique, irregularly interrupted at base, and crosses just beyond the middle the last section of the fourth vein, ending at the border a little after the end of the fourth vein. The cubital band is broader than the middle one, extends from the hind border across the hind cross-vein, and ends roundly above it in the first posterior cell, being distinctly separated from the basal band. Axillary lobe hyaline, only with a diffused greyish shade at the apex.

Originally described in the male sex from Kamerun, Soppo, xii. 1912; there is a male from Uganda, Kampala, 10.xi.1915 (*C. C. Gowdey*).

### **Clinotaenia**, gen. nov.

Notwithstanding the obtuse third antennal joint, the present new genus seems to be more closely allied to the preceding one than to the following genera. Its wing pattern is very like that of *Bistrispinaria*, and is not very different from that of *Trypeta grata*, Wied., a species which might therefore be better placed here than in *Leucotaeniella*. Loew (Berl. Ent. Zeits., v, 1861, p. 268) has pointed out that the allies of *T. grata* are to be found only in the neotropical fauna; the American forms with a similar wing pattern are those of the genus *Anastrepha*, which are however very different in their structural characters; but it is interesting to note that the end of the fourth longitudinal vein in the species here described shows a slight tendency to be curved upwards. The new genus *Clinotaenia* is closely allied to the Oriental genus *Gastrozona*, but has only two *i. or.*, and different body and wing patterns. It must be recorded that Prof. De Meijere has recently described\* from Java a species of *Anastrepha* (*A. extranea*), which however cannot be placed in the American genus, nor in the present one.

\* Tijdschr. v. Entom., lvii, 1914, p. 193, pl. v, fig. F.

Head in front view distinctly higher than broad, as broad as the thorax; frons quite flat, proportionally narrow, as broad as the eye, longer than broad; occipital lower swellings distinct, but less developed than in *Bistrispinaria*; eyes narrow, the head being very narrowed in profile; jowls rather broad. Antennae approximate at base, inserted distinctly above the middle of the eyes; they are very short, with the second joint rather prominent above and beset with short and thick spinules; third joint rounded at tip, not reaching the middle of face; arista long plumose. Cephalic bristles well developed and black; the *s. or.* are inserted over less distinct and not converging plates, and the anterior one is not specially dilated; only two *i. or.*; *oc.* well developed, but rather short; *ocp.* black and acute; genal bristle of medium size. Thoracic chaetotaxy complete, with black and strong bristles; middle *scp.* long and approximated; *dc.* on a line with the *a. sa.* or only a little beyond it; two *mpl.*; *pt.* as strong as the *st.* Scutellum swollen, rounded, not trilobate, with four bristles, the apical ones decussate, and with sparse thin hairs; it is whitish yellow, with three black spots. Abdomen oval, as broad as the thorax, bristly on sides and at end, with whitish transverse bands; ovipositor as long as the last three abdominal segments together, triangular, rather swollen at base, broadly obtuse at end. Legs short and stout; front femora with a complete row of strong bristles beneath; middle tibiae with a single spur at end; hind tibiae with a row of strong bristles in the middle of the outer side. Wings proportionally long, with blackish basal streaks and with fuscous bands, the first of which is placed obliquely (whence the generic name); costal bristle strong and long, but there are no other strong bristles before it. First longitudinal vein ending before the small cross-vein; second vein about straight; third vein beset with dense bristles throughout its whole length, its last portion parallel with the last portion of the fourth; fourth vein slightly but distinctly curved upwards at end; small cross-veins long and oblique, placed beyond the middle of the discoidal cell; hind cross-vein straight, inwardly oblique, the lower angle of the discoidal cell being acute; discoidal cell three times as long as the hind cross-vein; anal cross-vein deeply angulate in the middle; lower point of the anal cell of medium length, as long as the second basal cell.

Type: the following new species.

***Glinotaenia anastrephina***, sp. nov. (Pl. xvii, fig. 6).

A pretty species readily distinguished by its antennae and wing pattern.

Length of body 5.5 mm.; of ovipositor 1 mm. (when completely exerted 2.2 mm.); of wing 5.5 mm.

Head entirely pale yellowish, with a broad blackish patch on the occiput from the neck to the upper corner of the eyes, with a small brownish subocular spot on the jowls; towards the middle of the frons there is a reddish yellow spot. The frons is opaque, only the narrow plates bearing the *s. or.* being shining; ocellar dot blackish. Antennae reddish yellow, the second joint appearing infuscated owing to the numerous black spinules. Proboscis and palpi yellowish, the latter with rather thick black bristles. Occipital swellings whitish and clothed with whitish hairs, with a few short and thicker black ones at lower border. Frontal stripe in the middle with a few short black hairs. The thorax is blackish on the



dorsum, but densely dark grey tomentose and with short golden-yellow pubescence; the sides above the notopleural line and above the root of the wings are shining blackish brown, while on the postalar calli there is a rounded, velvety black spot; on each side, behind the suture and above the blackish supra-alar patches, there is a narrow and ill-defined, yellowish stripe. Pleurae blackish, partly reddish brown, shining, with a broad oblique whitish patch across the meso- and pteropleura, uniting in front with the whitish immaculate humeral callosities; there is also a broad double whitish hypopleural spot; sternopleura shining black; mesopleura hairs whitish. Postscutellum and mesophragma shining black. Scutellum shining whitish, with whitish hairs; there is a narrow black stripe at base, and three broad black spots, which are hardly visible from above, the apical one occupying the whole space between the two apical bristles, and the lateral ones having the lateral bristles inserted at their outer borders. Squamulae and halteres whitish. Abdomen blackish, but clothed with dense grey and white dust; first segment shining black on the basal half, white-dusted on the apical half, thus forming a complete and broad cross band; second segment entirely brownish grey; third and fourth entirely white, with a narrow blackish basal band. The abdominal hairs are white on the white, black on the dark parts; all the bristles are black. Venter reddish brown. Ovipositor entirely reddish, darker at base, with short black or dark brownish hairs. Legs with dark reddish coxae and with blackish femora, which are dark reddish at base; tibiae and tarsi pale yellowish, but the latter darkened at end; bristles black; hairs dark on femora and whitish on tibiae. Wings whitish hyaline, with black veins, but the costa and the first longitudinal are whitish on the hyaline parts, like the fourth and fifth veins. At the extreme base there is a short fuscous band, extending from the humeral cross-vein to the base of the second basal cell; after this band there are the blackish streaks, which are broad and placed one in each cell, except the anal cell, and are present even in the base of the submarginal cell and in the upper corner of the base of the discoidal cell. The second costal cell is infuscated at the two ends; the stigma is hyaline, with a blackish base. The bands are deep fuscous, the darker spots of the marginal band along the costa being thus less distinct. Basal band oblique, beginning at fore border beyond the stigma, passing across the small cross-vein and ending narrowly at the tip of the sixth vein; it is almost straight on its outer border, with fuscous teeth on the inner edge, two of which extend into the third posterior cell; at base of the discoidal cell it is united with the fuscous basal streak of the same cell. The marginal band extends below to the third vein, passing even below it near the apex and ending at wing border near the middle of the first posterior cell. The oblique middle band is rather broad; it begins at middle of the last portion of the third vein and ends at wing border just below the end of the fourth vein; the hyaline indentation between the marginal and the middle band is narrower than the terminal part of the marginal band itself. Cubital band less oblique, beginning at hind wing border, passing across the hind cross-vein and ending rather narrowly above it in the first posterior cell, quite separated from the basal band; its external border is convex, while the internal one is concave, the band being thus distinctly arcuate. Axillary lobe entirely hyaline, like the alula.

Type ♀, a single specimen from Nyasaland, Mt. Mlanje, 3.xii.1913 (*S. A. Neave*).  
(637)

**Pterandrus**, Bezzi, 1918.**Pterandrus rosa**, Karsch, var. **fasciventris**, nov.

Differs from the type in having well developed blackish bands on the abdomen.

♂ ♀. Length of body 5–5.5 mm. ; of ovipositor about 1 mm. ; of wing 5.5–6 mm.

Head, its appendages and bristles exactly as in *rosa*. Thorax and scutellum likewise, but the dorsum of the mesonotum in fully coloured specimens seems to be darker and more densely grey-dusted. The chaetotaxy is the same, the single *mpl.* being present. The abdomen in both sexes shows a distinct, complete, blackish, rather shining cross band on the apical half of the second segment ; the third and fourth segments are whitish, but in the female they have a distinct dark cross band at base. The ovipositor is shining reddish, with a distinct black base and with a less intense apical black border, but these dark parts are not sharply separated. The legs are as in *rosa*, the male having the middle femora quite simple, and the middle tibiae feathered on the apical half alone ; the front femora of the male are not densely ciliated. The wing pattern is the same as in *rosa*, but the stigma is blackish, with the apical third hyaline.

Type ♂, type ♀, and an additional female specimen from Uganda, Entebbe, 17.viii.1911 (*C. C. Gowdey*); another male specimen (more lightly coloured owing to immaturity) from Uganda, Kampala, 5.xii.1916 (*C. C. Gowdey*).

The species *Pterandrus anonae*, *P. colae*, *P. rosa* and *Pardalaspis morstatti* are very closely allied and have a similar wing pattern ; the feathering of the middle legs in the male decreases from the two former (which have femora and tibiae feathered) to the third, in which only the tibiae are feathered, and to the fourth, in which they are not feathered at all. The two former species agree also in the ciliation of the front femora, which is lacking in the two latter ; *morstatti* in the length of the ovipositor agrees with *colae*, while *anonae* and *rosa* have a short ovipositor. In a more natural classification *P. morstatti* must be placed in the genus *Pterandrus*, notwithstanding the lack of feathering on the middle legs in the male.

**Pardalaspis**, Bezzi, 1918.

I will give here another table for determining the rather numerous species of the present genus, excluding *inscripta*, Graham (belonging to *Trirhithrum*), and with the addition of two new species.

- 1(18). Wings with the band across the hind cross-vein quite isolated, and without a complete middle band, or rarely with a small isolated streak on the last portion of the fourth longitudinal vein.
- 2(15). The black spots of the scutellum very broad, quadrate or rectangular in shape, closely approximated, and nearly covering the whole surface.
- 3 (4). Wings with the marginal band isolated (as in *Pterandrus*); arista shortly plumose .. .. . *morstatti*, Bezzi.
- 4 (3). Wings usually with the marginal band broadly united at stigma with the basal one ; when they are separated, the arista is pubescent only.
- 5(14). Last portion of the fourth longitudinal vein destitute of an oblique dark streak across its middle.

- 6 (7). Two strong *mpl.* present; wings broad, with strikingly developed basal streaks and dots, and with the bands much infuscated; head of the male with a peculiar, striking coloration .. .. . *punctata*, Wied.
- 7 (6). Only one *mpl.* present as a rule; wings with a less developed basal pattern and with pale yellowish bands, which at most are infuscated only towards the hind border; head of the male not peculiarly coloured.
- 8 (9). Thorax destitute of black spots; species of greater size (8 mm.)  
*brêmei*, Guér.
- 9 (8). Thorax with distinct black spots, at least on the sides beyond the suture; size smaller (not over 7 mm.).
- 10(11). Occiput above with broad, shining black spots; the shining black parts on back of mesonotum more developed than the yellow ones; scutellum black, with a narrow yellow base .. .. . *melanaspis*, sp. nov.
- 11(10). Occiput yellow above or only a little infuscated; yellow parts of back more developed than the black ones; scutellum yellow with black spots.
- 12(13). Humeri with a distinct black spot; sides of thorax with black spots before the suture; scutellum with two basal black spots besides the three apical ones .. .. . *cosyra*, Walk. (*giffardi*, Bezzi).
- 13(12). Humeri and sides of thorax before the suture destitute of black spots; scutellum with no distinct basal spots.. .. . *silvestrii*, Bezzi.
- 14 (5). Last portion of the fourth vein crossed over the middle by a well developed, oblique, dark streak; wings short and broad .. .. . *antistictica*, Bezzi.
- 15 (2). The black spots of the scutellum much smaller and broadly separated, the outer ones being more rounded; the scutellum therefore mainly yellow.
- 16(17). Scutellum with three black spots; wings with the marginal and basal bands wholly separated beyond the stigma .. .. . *flexuosa*, Walk.
- 17(16). Scutellum with five spots; the two above-named bands united and fused with the stigma .. .. . *quinaria*, Bezzi.
- 18 (1). The band over the hind cross-vein not isolated; or when its union with the other band is less distinct, there is a complete middle band.
- 19(20). The marginal band united with the basal one and with the stigma; the band over the hind cross-vein united with the basal one; no complete middle band .. .. . *stictica*, Bezzi.
- 20(19). The marginal band separated from the basal one beyond the stigma; the band on the hind cross-vein united with the marginal one; a complete middle band across the last section of the fourth vein.. .. . *aliena*, sp. nov.

**Pardalaspis melanaspis**, sp. nov.

Allied to *P. cosyra* (*giffardi*), but smaller and at once distinguished by the broad black occipital patches, and by the more extended shining black pattern of the thorax and scutellum.

♂♀. Length of body 3·2–3·5 mm.; of ovipositor 0·5 mm. (when completely exerted 1·5 mm.); of wing 3·2–3·5 mm.

Head pale yellowish, with reddish-yellow frontal stripe, with a black, rather broad, rounded ocellar spot, and a broad, shining black patch on upper part of the occiput, extending from the neck to the eyes, but leaving a narrow yellow border near the

eyes. There is no subocular spot on the jowls. The antennae are entirely yellow, about as long as the face; second joint not prominent, never spinulose; third joint broad and long, attenuated but rounded at end; arista dark, shortly pubescent on both sides. Upper mouth-border rather prominent and shining. Palpi broad, flat, yellow, with short black bristles; proboscis yellowish. Cephalic bristles black, but the *pvt.* and the very thin and indistinct genal bristles are yellowish, the former sometimes infuscated; the hairs of the jowls and of the lower part of the occiput are yellowish; frontal stripe with sparse indistinct darkish hairs. Thorax entirely pale yellowish and rather shining, with broad black spots on the dorsum; it is clothed with short, pale yellowish hairs. Humeri with a broad rounded black spot; from the humeri to the transverse suture extends a broad rectangular blackish-brown shining patch, reaching inwardly to the dorsocentral lines, and including a deep black, opaque spot above the notopleural line with the anterior *npl.* Between these two black patches there is a rather broad, shining black, middle stripe, extending from the black scapular region to the suture, and ending there truncately. Beyond the suture the back is entirely shining black, with a concave front edge; along the middle line there is a pale yellow, longitudinal stripe, which is a little narrower than the presutural black stripe and ends with a transverse, pale yellowish streak in front of the scutellum, thus forming a **┐** shaped mark. Above and in front of the root of the wings, and on the postalar calli there are rounded, deep black, opaque spots. The pleurae are of a shining pale yellowish colour, whitish on the upper part of mesopleura, and there with a narrow longitudinal black stripe, extending from below the humeri to the *mpl.* bristle. The upper border of the sternopleura is pale; there is a broad double whitish hypopleural spot. All the bristles are black and strong, but the well developed middle *scp.*, and the thin *pt.* and *st.*, are pale yellowish; one *mpl.* only; *dc.* placed before the line of the *a. sa.* Scutellum rounded, convex, slightly trilobate; it is entirely shining black, with a narrow, pale yellowish, basal border; it has rather long and numerous whitish hairs on the disc, and four long black bristles, the apical ones not decussate, or only slightly so at the tips. Postscutellum shining black; mesophragma yellow, clothed with dense whitish dust on the upper half. Squamulae whitish; halteres yellowish. Abdomen entirely yellow, rather shining, with numerous blackish hairs, and with black bristles at end and on sides. The narrow hind border of the first segment in both sexes and almost the whole of the third segment in the female, are densely clothed with whitish dust, forming thus two white cross bands. Ovipositor shining yellow, with yellowish hairs, with the basal segment bluntly triangular, about as broad as long, swollen. Legs entirely pale yellowish, with yellowish pubescence; the long bristles of the underside of the front femora, and those of the hind tibiae are likewise yellowish; the single spur of middle tibiae is black. Wings proportionally long, with short and less developed costal bristle; the veins are entirely pale yellowish, and typically disposed; the stigma is about twice as long as broad, quite yellow, or rarely with the apical half subhyaline. The pattern is yellowish and shaped as in *cosyra*, but the basal dark streaks are less numerous, the second basal cell having a single blackish dot, and the anal cell having no dots at all.

Type ♂, type ♀, and an additional female specimen from Cape Colony, Grahams-town, 9.ii.1905 (*C. W. Mally*).

**Pardalaspis aliena**, sp. nov.

Allied to *cosyra* and *silvestrii*, but distinct from them as well from all the other species in having the costal band of the wings separated from the basal one, and in having a complete middle band across the last section of the fourth longitudinal vein.

♀. Length of body 4.2 mm. ; of ovipositor 0.6 mm. ; of wing 4.2 mm.

Head pale yellowish, without any dark spot, only with a small black ocellar dot. Face whitish, not prominent at the mouth-border. Antennae wanting in the type, only the shortened and pale yellowish basal joints being present. Palpi whitish, not very broad, without bristles, with whitish hairs ; proboscis pale yellow. Cephalic bristles black ; *oc.* well developed. Thorax shining yellow, with short whitish pubescence. Humeri whitish, immaculate ; above them there is on each side a shining black, longitudinal stripe, which ends before the suture, but is continued behind it along the dorsocentral lines by a black subquadrate spot on the *dc.* bristles, and by a broad stripe in front of the scutellum, including a broad whitish patch, in the shape of a rounded spot. Above the notopleural line and above the root of the wings there are the usual velvety black, opaque spots, which are separated by the whitish notopleural callus ; on the postalar calli there is also a rounded, deep black spot ; above the shining supra-alar patch there is on each side a short whitish stripe. The pleurae are pale yellowish and shining, with a white mesopleural spot and a double white hypopleural spot. Postscutellum deep black ; mesophragma pale yellowish, with faint whitish dust. Scutellum shining whitish, with three subquadrate, equally broad spots at hind border ; it is convex and less distinctly trilobate. All the thoracic bristles are black, even the middle *scp.* and the *pt.*, only the *st.* being yellowish ; one *mpl.* Squamulae white ; halteres whitish. Abdomen shining yellow, with whitish pubescence and with black bristles at sides and at end ; the narrow hind border of the first and third segments is covered with whitish dust, forming thus a very narrow and ill-defined white cross band ; ovipositor shining yellow ; venter pale yellowish. Legs entirely pale yellowish and with concolorous bristles and hairs, only the spur of middle tibiae being black. Wings with entirely pale yellowish veins, and with a very short and black costal bristle ; the bands are pale yellow, infuscated towards the hind border ; the stigma is yellow, with the extreme upper corner subhyaline. At base there are some darkish dots and streaks, three in the second costal cell, one streak in the other cells and none in the anal cell. The basal band is perpendicular, beginning at stigma, including the small cross-vein, which is situated just at its outer border, and ending with a slight curve at apex of the sixth longitudinal vein. After this band there is a complete hyaline band, which extends to the fore border just beyond the stigma ; the marginal band is therefore separated from the basal one. The marginal band extends below to the third vein, passing beyond it with its infuscated end, and ending at apex about in the middle of the first posterior cell ; it includes two darker marginal dots in the marginal cell, and a rounded hyaline spot at end of the second vein. A little before the middle of the marginal band arises the narrow and complete middle band, which, passing across and beyond the middle of the last section of the fourth longitudinal vein, ends infuscated at hind border in the upper third of the second posterior cell. The cubital band extends across the hind cross-vein and is only slightly oblique ; above it becomes gradually paler, but is distinctly united with the costal band just

near its base. The small cross-vein is placed noticeably before the middle of the discoidal cell; the last portions of the third and fourth longitudinal veins are slightly divergent; the hind cross-vein is straight and placed a little obliquely; the produced lower angle of the anal cell is rather broad, and a little shorter than the second basal cell.

Type ♀, a single damaged specimen from Cape Colony, Grahamstown, 30. xi. 1908 (*C. W. Mally*).

### **Capparimya**, gen. nov.

I will erect here this new genus (which, so far as at present known, is not Ethiopian but only Mediterranean) with *Ceratitis savastani*, Martelli,\* as type. This species shows all the characters of *Pardalaspis*, as well as the same coloration of body and the same wing pattern, but it is at once distinguished by the complete want of the *oc.* bristles, a character which is present in none of the allied forms. The ending of the fourth longitudinal vein at the tip of the wing is also unique among the allies of *Ceratitis*, and it is rendered even more evident by the distinct narrowing of the first posterior cell, due to the curving downwards of the third longitudinal vein in its last portion.

The erection of a new genus for the present species is supported by the fact that it is a gall-making insect; the young buds of the flowers of *Capparis spinosa*, L. (whence the generic name), in which the larvae live, become hypertrophied, deformed and arrested in their development, the effects being similar to those caused by the Itonid midge, *Asphondylia capparis*, Rübsaamen. The gall of *Capparimya savastani* is included in the great work of Prof. Houard†; and it must be remembered that all the larvae of the allied forms live in fruits and are not galligenous, and that the faculty of making galls is very rare in the subfamily CERATITINAE, while it is not rare in the subfamily TRYPANEINAE.

The main characters of the new genus are as follows:—*Pvt.* yellow; *ocp.* black and acute; two *i. or.*; the *s. or.* are inserted on indistinct and not converging plates; genal bristle thin and yellow; *dc.* placed only a little behind the line of the *a. sa.*; one *mpl.*; *pt.* as developed as the *st.*, and both yellowish in colour, like the middle *scp.*, while all the other bristles are black. Wings with a short but strong costal bristle; first longitudinal vein ending noticeably beyond the small cross-vein, which is placed before the middle of the discoidal cell; third vein bristly to the middle of its last portion; first posterior cell narrower at end than in the middle, the last portion of the third vein being curved downwards before the end; fourth vein ending very near the tip of the wing; lower angle of the discoidal cell acute, the hind cross-vein being however only a little oblique; lower point of the anal cell acute and produced, but a little shorter than the second basal cell.

The single species at present known has been found only in Sicily and in Southern Italy.

\* Boll. Arboric. Ital., vii, 1911, p. 19, figs. 1-4, and Mem. R. Accad. Zelanti, (3) vii, 1912, p. 50, figs. 1-4. In the Zoological Record, vol. L, p. 423, the species appears as published in 1913.

† Les Zoocécid. des plantes d'Europe, etc., iii, 1913, p. 1355, n. 6730.

**Perilampus**, gen. nov.

This new genus is erected here with *Carpophthoromyia pulchella*, Austen, as type, and includes *Carpophthoromyia formosula*, Austen, but not *Trypeta grata*, Wied., which probably belongs to *Clinotaenia*, as stated above. It comprises very beautiful (whence the generic name) Ethiopian flies, which agree in coloration of the body and in wing pattern, as well in the following characters:—

Head in front view broader than high, the face being a little shorter than the frons and the jowls very narrow; eyes rounded; occipital lower swellings less developed; frons about as broad as long, flat, with the shining vertical plates short, not prominent, slightly converging in front; face distinctly concave in the middle and prominent at mouth-border. Antennae inserted at middle of eyes, rather long but always shorter than the face; second joint not prominent, never spinulose above; third joint twice as long as the second and obtuse at end; arista with long pubescence, or even shortly plumose, the feathering being much narrower than the breadth of the third joint. Palpi broad and shortly bristled; proboscis short. Cephalic bristles black; *ocp.* numerous and long, black, acute; *oc.* strong and long; two *i. or.*; genal bristle black and rather long. Thorax shining black on the back of mesonotum and adorned with characteristic transverse bands of minute, pale-coloured hairs; pleurae with whitish mesopleural stripe and with double hypopleural spot; scutellum quite yellow, destitute of black spots. Thoracic chaetotaxy complete; middle *scp.* long and approximated; *dc.* placed a little beyond the line of the *a. sa.*; one *mpl.*; *pt.* as strong as the *st.*; all the bristles are black. Scutellum broadly triangular, not trilobate, rather flat above, with distinct lateral keels, pubescent above and with four bristles. Abdomen shortly oval, distinctly broader than the thorax at base, and with black bristles at end and on sides. Legs stout, with complete rows of bristles on front femora and on hind tibiae; middle tibiae with a single spur. Wings broad and long, with a blackish and characteristic pattern, the middle band of which is more or less complete, and the basal band perpendicular and beginning at the stigma. Costal bristle short but strong; first longitudinal vein ending opposite to the small cross-vein; second vein straight; third vein bristly to the middle of its last section; third and fourth veins slightly divergent towards the end, and thus the first posterior cell not narrowed outwardly; fourth vein ending much behind the tip of wing; small cross-vein before the middle of the discoidal cell; hind cross-vein oblique inwardly; point of the anal cell a little shorter than or as long as the second basal cell.

**Perilampus pulchella**, Austen, 1910.

Of the present species, known from Uganda and Kamerun, there is a specimen from S. Abyssinia (*R. J. Stordy*). The species seems therefore to have a very wide distribution over the whole centre of the Ethiopian Region.

**Hoplolopha**, gen. nov.

This new genus is a very interesting one, because, although it is without doubt closely allied to *Ceratitis* (*s. l.*) and has a wing pattern very like that of the preceding genus, it shows in the male sex on the frons the cristiform protuberances with

incrassated bristles (whence the generic name), which are characteristic of other Trypaneid genera, like *Straussia*, *Vidalia*, *Stemonocera*, etc.

Head in front view a little higher than broad. Eyes rather narrow; lower occipital swellings well developed; jowls as broad as the breadth of the third antennal joint. Frons longer than broad, narrower than the eye; in the female it is flat, while in the male it is distinctly concave in the middle; the shining orbital plates are produced beyond the middle of the frons, and converge in front, and moreover in the male they are prominent and cristiform. Face shorter than the frons, rather flat, and with a less prominent mouth-border. Antennae inserted at the middle of the eyes, proportionally long, but always shorter than the face; second joint not specially prominent, nor spinulose; third joint elongate linear, rather narrow, about three times as long as the second, rounded at tip; arista pubescent, the breadth of its feathering being much narrower than the breadth of the third antennal joint. Palpi broad; proboscis short. Cephalic bristles black and strong; *ocp.* thin and pointed; *oc.* strong and long; the three *s. or.* are in both sexes very long and incrassated, chiefly the two former, curved backwards, but in the male they are distinctly longer; two *i. or.*, rather short and much shorter than the superior ones; genal bristle rather short. Thorax yellowish grey, pale pubescent, with ill-defined black pattern, and with less striking, whitish, pleural markings; scutellum swollen, rounded, yellowish, with three broad, shining black spots. Middle *scp.* long, approximated, black like all the other bristles; *dc.* a little beyond the line of the *a. sa.*; one *mpl.*; *pt.* as strong as the *st.*; four *sc.*, the *a. sc.* diverging. Abdomen short and oval, with bristles on sides and at end; male genitalia developed; ovipositor narrow and cylindro-conical, swollen, as long as the last three abdominal segments together. Legs short and stout; front femora with a complete row of bristles below; middle tibiae with one spur; middle and hind tibiae with an external row. Wings long but proportionally not broad, with a short but strong costal bristle, with basal dark streaks and dots, and yellowish bands; basal band beginning at stigma and perpendicular; middle band complete. First longitudinal vein produced beyond the small cross-vein; second vein straight; third vein densely setigerous to the middle of its last portion; small cross-vein oblique and placed considerably before the middle of the discoidal cell; third and fourth slightly divergent at end, the fourth ending much after the tip of wing and the first posterior cell not narrowed outwardly; hind cross-vein before the middle of the first posterior cell, very oblique inwardly, the lower angle of the discoidal cell therefore acute; discoidal cell three times as long as the hind cross-vein; anal cross-vein deeply sinuous, the lower angle of the anal cell very long, longer than the second basal cell; axillary lobe broad and semicircular, in the male separated by a deeper incision of the hind border at the end of the sixth longitudinal vein.

Type: the following new species.

**Hoplolopha cristata**, sp. nov. (Pl. xvii, fig. 7).

A robust fly of comparatively large size, at once distinguished from all the allied forms with a typical *Ceratitis*-like wing pattern on account of the cristate frons of the male.



♂♀. Length of body 6·5–7 mm.; of ovipositor 1 mm.; of wing 7·5–8 mm.; breadth of wing about 3 mm.

Head yellowish, but more whitish on the face, on the linear cheeks and on the lower occipital swellings; the frons is opaque and immaculate, but the ocellar and vertical regions and orbital plates are shining and of a more reddish colour; below the lower corner of the eyes there is an ill-defined brownish genal spot, more developed in the female than in the male. Antennae entirely yellowish, the third joint infuscated along the upper border; palpi pale yellowish, with some black bristles at the end; proboscis reddish. All the cephalic bristles are black, even the *pvt.* and the genal ones; the lower occipital hairs are white, but along the lateral borders of the oral cavity there is a rather dense row of short bristly black hairs. Thorax on the dorsum reddish brown, but covered with a dense grey dust and with pale pubescence; it is opaque, with a more or less distinct trace of a middle longitudinal blackish stripe; on the dorsocentral lines there is on each side a blackish stripe, which is interrupted to form a rounded postsutural spot, and a broader and shining elongate spot in front of the scutellum; above the wings there is also on each side a blackish stripe, and two broad blackish spots, the anterior shining, the posterior deep black. Humeral calli reddish or pale yellowish, not spotted. Pleurae reddish yellow, rather shining, with white dust and with whitish mesopleural stripe, more distinct in the male, and with rather long, pale yellowish hairs, which are however dark on the lower part of the mesopleura, while on the breast they are white. The double whitish hypopleural spot is more distinct in the male. Postscutellum shining black, more or less reddish below and on sides; mesophragma reddish with grey dust. Scutellum with three very extended, shining black, rectangular spots, and between them very narrow, yellowish or reddish stripes; in the narrowly yellow base there are two dark spots, in contact with the hind border of mesonotum. Halteres whitish, with reddish knob; squamulae whitish, with narrow dark border. All the bristles are black, even the middle *scp.* Abdomen reddish yellow, with grey dust; the second, third and fourth segments are blackish at base, more broadly in the second, which is almost entirely black, while the third is more densely clothed with whitish dust, thus forming a transverse band, more distinct in the female. The hairs are whitish on the pale, and blackish on the dark parts; the bristles are black. Male genitalia black and black-haired; ovipositor shining reddish, darkened at tip, with darkish hairs. Legs entirely pale yellowish, with blackish pubescence, black bristles and black claws. Wings hyaline, iridescent, with yellowish veins, only those of the lower part of the base being blackened. The extreme base, before the humeral cross-vein, is infuscated as a short yellowish band. The basal blackish dots and streaks are numerous, and are more developed in the female than in the male; they invade the anal cell also, and even the base of the discoidal and third posterior cells. The stigma is yellowish, darker on the basal half. The bands are yellowish, infuscated towards the apex and the hind border of wing. Basal band perpendicular, going from the base of the stigma to the end of the sixth longitudinal vein, but not extending into the axillary cell, or only slightly so; the small cross-vein is placed just at the anterior border of this band. The costal band is broadly connected with the basal one, its lower border going exactly along the third vein, surpassing it only near the tip of the wing, and there ending (infuscated)

before the middle of the first posterior cell ; it contains two rather large fuscous spots on the fore border in the marginal cell. From the costal band, about at middle of the last portion of the third vein or a little beyond it, departs the fuscous narrow middle band, which, crossing obliquely beyond the middle of the last portion of the fourth vein, ends at the hind border just below the tip of the fourth vein itself. The fuscous cubital band is about twice as broad as the middle one ; it begins at the hind border of the wing symmetrically with the end of the fifth vein, and passing over the hind cross-vein fills up broadly the end of the discoidal cell, and ends, more pale-coloured, in the first posterior cell, but without reaching either the basal or costal band ; the base of the first posterior cell is thus completely hyaline. The broad axillary lobe is hyaline, with an ill-defined fuscous middle spot ; the alula is quite hyaline. The oblique folds in the discoidal and third posterior cells are about as dark as the axillary vein.

Type ♂ and type ♀, a single couple of specimens from British East Africa, Kabete, 28.viii.1914 (*T. J. Anderson*).

### **Trirhithrum**, Bezzi, 1918.

The peculiar character of the wing pattern in the present genus is not (as wrongly indicated on p. 233 of my previous paper) that the middle band is united to the marginal one, but that the cubital band (or the band on the hind cross-vein) is united to the basal or anal band. Another error is to be found in p. 239 in the description of the new species *Tr. occipitale*, which has the thorax shining black, and not shining yellowish.

To the present genus is to be ascribed also *Ceratitis inscripta*, Graham, which is the same as *T. coffeae*, Bezzi, as stated by Dr. G. A. K. Marshall ; and the following very distinct and robust new species, which seems to be allied to *T. nitidum*, v. Roeder, in having a complete middle band on the wings.

### **Trirhithrum validum** sp. nov.

A robust fly of comparatively large size, entirely shining black, with whitish mesopleural stripe and whitish scutellum, and with a complete middle band on the wings, which have also rather distinct black streaks at the base.

♀. Length of body 7.5 mm. ; of ovipositor 1.5 mm. ; of wing 8 mm.

Head with the occiput shining reddish in the middle and above, black on the sides ; frons dull yellowish, face whitish on its lower part, jowls reddish like the lower occipital swellings, which are shining black above. The frons is about as broad as long, unspotted, only the ocellar and the narrow and short orbital plates being shining reddish. The cheeks are whitish, but their upper half, by the roots of the antennae, is purplish. Antennae wanting in the case of the type. Upper half of the face, just below the antennal root, blackish and grey-dusted. Jowls of a purple colour, with a dark brown spot below the eye. Palpi and proboscis reddish brown. All the cephalic bristles are black, even the *prt.* and the genal ones ; two *i. or.* ; *oc.* very strong and long ; occipital hairs black, even below ; mouth-border on the sides with a row of black bristly hairs. Thorax shining black on the back, with short dense black pubescence ; humeri black, narrowly reddish brown behind ;

pleurae shining brown, with a broad oblique whitish mesopleural stripe, on which there are long and pale yellowish hairs, while the hairs are black on the rest; no distinct lighter hypopleural spots. Postscutellum and mesophragma shining black. Scutellum of a semicircular shape, flattened above, shining whitish, with three broad shining black spots at hind border which are not visible from above; it is clothed above with rather long whitish hairs and bears four bristles, the middle pair being not decussate. Thoracic bristles black, even the long and approximated middle *scp.*; *dc.* placed on the line of the *a. sa.*; one *mpl.*; *pt.* stronger than the *st.* Halteres blackish, with yellowish base; squamulae dark yellowish, with blackish border and with dark fringe. Abdomen with parallel sides, not broader than the thorax and not narrowed at base; it is shining black, clothed with black hairs, and with black bristles on sides and at end; the hind border of the first, and the whole of the third segment are densely clothed with a whitish-grey dust, thus forming two transverse bands, which are clothed with whitish hairs; the fourth segment is reddish brown on the middle; ovipositor elongate triangular, as long as the last three abdominal segments together, depressed, shining black, with black hairs and with the apical segment reddish; venter shining black. Legs with reddish brown coxae and femora, the latter more blackened outwardly, and with black pubescence; tibiae and tarsi pale yellowish and with whitish pubescence; bristles of the femora black, those of the tibiae tawny. Wings long and narrow, hyaline, with a blackish pattern; costal bristle strong but short; veins dark brown or blackish, but the costa and the first longitudinal pale yellowish on the basal hyaline indentation. The extreme base is blackened, being separated from the basal band by a triangular hyaline indentation, the base of which is at costa in the two basal cells, and the vertex is below the end of the second basal cell; in this hyaline part there are some blackish dots, likewise in the basal blackish part there are some narrow hyaline streaks, forming thus a *Ceratitis*-like pattern, though closer and less distinct. The stigma is entirely black. The basal band begins at the stigma and extends to the hind border below the end of the sixth vein, filling up almost the whole of the axillary lobe, and being thus broadly united to the basal blackish part; the whole of the first basal cell, and the base of the discoidal and third posterior cells are broadly united with this band. The marginal band is broadly united at base with the basal one, and does not extend beyond the third vein, passing only a little over it in its terminal part, and ending at costa near the first third of the first posterior cell; it encloses two darker dots in the marginal cell, and two hyaline streaks at costa before and behind the end of the second longitudinal vein. About at middle of the last section of the third vein arises the narrow, but complete and even, middle band, which, crossing beyond the middle of the last portion of the fourth vein, ends at hind border just below the end of this same vein. The oblique cubital band is broader than the middle one, and is broadly united with the basal one at the small cross-vein; it runs along the hind cross-vein, leaving hyaline the upper external corner of the discoidal cell, and ends at hind border symmetrically with the end of the fifth vein. Small cross-vein long and oblique, the first posterior cell being as broad as the discoidal cell, which is very acute below, the hind cross-vein being very oblique. Alula entirely infuscated.

Type ♀, a single specimen from Uganda, Entebbe, 12-13.xii.1912 (*C. C. Gowdey*).

**Xanthorrhachista**, Hendel, 1914.**Xanthorrhachista alata**, Becker, 1910.

In my previous paper I overlooked the description of *Acidia alata*, Beck. (Ann. Soc. Ent. France, 1910, p. 28), with which *Xanthorrhachista cephalia*, Hend. (1914), is undoubtedly synonymous.

**Themaricteria**, Hendel, 1914.

To the characters of the genus on p. 243 of the first paper must be added :

No *oc.* ; two pairs of *vt.* ; two *s. or.* and two *i. or.* ; *pvt.* well developed ; genal bristle thin ; *ocp.* long and acute, black. *Scp.* long, the middle ones approximated ; no *pt.* ; *st.* very short and thin, not properly wanting, as stated by Hendel ; three *p. sa.*, the inner one thinner.

**Themaricteria laticeps**, Loew, 1861.

Closely allied to *T. flaveolata*, F., but differing in the presence of two hyaline spots, one in the submarginal and one in the first basal cell. The first of these spots is placed on the limit between the brown and the yellow pattern, beginning at the third longitudinal vein just beyond the small cross-vein, and extending above nearly to the middle curve of the second vein ; in this way is formed the black indentation, which is exaggerated in Loew's original figure. The second hyaline spot is before the small cross-vein ; it is ovate in shape, and extends from the third to the fourth vein. These two spots are distinctly whitish, like the basal streaks, as described by Loew. In the rest the unknown male is very like the female ; the genitalia are rounded, not prominent, entirely shining yellow ; the last abdominal segment has numerous black bristles. The eyes are green, with two purplish cross bands, converging anteriorly, on the upper half.

A male specimen from Natal, Durban, xi.1916 "reared from native fruit" (*C. P. van der Merwe*, Agric. Dept. S. Africa). This specimen is an aberrant one, or is not fully coloured in the wing pattern, hyaline streaks being present in the ends of the marginal, submarginal and discoidal cells and the whole middle of the first posterior cell ; the fuscous pattern is thus restricted to some broad borders on the longitudinal and cross-veins.

*Puparium.* To the reared specimen is attached a puparium, which seems to be rather small for such a fly ; it measures 6 mm. only in length, while the adult fly is about 9 mm. long. It is of a dark reddish-brown colour and has a rather hard and thick skin ; the segmentation lines are not impressed ; the broadened areas of the ventral side are not prominent ; the posterior spiracles are very approximated, the surrounding parts being of a blackish colour. The surface is smooth, but quite opaque.

**Rhacochlaena**, Loew, 1862.

The Ethiopian species of the present genus, with the addition of the new one, may be distinguished as follows :

- 1(2). Wings destitute of a broad apical fuscous band, the first and second posterior cells being almost completely hyaline . . . . . *fasciolata*, Lw.

- 2(1). Wings with a broad fuscous apical band, the first and second posterior cells being for the greater part infuscated.
- 3(4). Apical hyaline spot of the wings broad, extending on both sides beyond the ends of the 3rd and 4th veins . . . . . *pulchella*, sp. n.
- 4(3). Apical hyaline spot small and not extending laterally beyond the ends of the above-named veins . . . . . *hammersteini*, End.

**Rhacochlaena fasciolata**, Loew, 1863.

The apex of the wing is occupied by a white rounded spot, which in certain lights is very conspicuous. The ovipositor is 2 mm. long; it is cylindro-conical, shining red, but broadly black at base above and more narrowly at tip; it is clothed with very short and dense, darkish pubescence. In the present species there is but a single *s. or.*

A couple of specimens from Natal, Estcourt, ix. and x. 1896 (*G. A. K. Marshall*).

**Rhacochlaena pulchella**, sp. nov. (Pl. xvii, fig. 8).

Very near *hammersteini*, but at once distinguished by the much broader apical hyaline spot of the wings.

♂. Length of body 4.5 mm.; of wing 4 mm. Head reddish, face jowls and lower part of occiput pale yellowish or whitish; frons opaque, with shining vertical plates and slightly whitish sides; the small ocellar dot is black. In the middle of the face there is an ill-defined fuscous cross band, not reaching the sides. Antennae entirely reddish, but the third joint a little infuscated at the end; the third joint is rather narrow, with the upper border distinctly concave; it is  $2\frac{1}{2}$  times as long as broad, with rounded tip; arista shortly pubescent. Jowls very narrow, narrower than the breadth of the third antennal joint. Eyes greenish, with two parallel cross bands of a purplish colour, one a little beneath the middle, the other on the upper third. Palpi and proboscis yellowish. Cephalic bristles black; *or.* 1 + 3; no *oc.*; *pvt.* less developed; the longer bristles are rather yellowish at the end. Thorax black, opaque, with greyish dust on the back; a middle longitudinal stripe and the sides are reddish; pleurae shining yellowish; along the notopleural line, from the humeri to the root of the wings, there is a rather broad whitish stripe. Scutellum whitish in the middle and infuscated on the sides. Mesophragma black and a little shining; the hypopleurae are also black, but with a narrow whitish stripe in continuation with the notopleural one. Squamulae and halteres whitish. Chaetotaxy typical; all the bristles are black, but the longer ones have yellowish ends; four scutellar; the short pubescence is pale yellowish. Abdomen black, with the last segment reddish brown behind, rather shining, with dark pubescence and black terminal bristles. Genitalia reddish brown, shining, with short yellowish appendages beneath. Legs entirely yellowish; bristles of front femora and spurs of middle tibiae black. Wings nearly the same as in Enderlein's fig. R, p. 441, with the following differences: (*a*) the first fuscous band is less developed and much shorter, ending near the upper corner of the second basal cell; (*b*) the second fuscous band is longer, reaching the hind border of the wing or nearly so; (*c*) the third abbreviated band is narrower; (*d*) the apical hyaline spot is twice as broad, extending symmetrically above in

the submarginal and below in the second posterior cell; it is distinctly whitish; (e) the hyaline indentation into the second posterior cell is narrower; (f) the hyaline dot at the end of the second longitudinal vein and the hyaline streak in the middle of the first posterior cell are faintly developed, or even indistinct.

Type ♂, a single specimen from the Gold Coast, Accra, i. 1916 (*Dr. J. W. S. Macfie*).

\* \* \* \* \*

The Ethiopian species referred by authors to *Acidia*, were provisionally placed by me under the head of *Philophylla*; but after the removal of *obnubila* and *coloniarum* to *Celidodacus*, there remain only *ocellata* (which belongs to a new genus) and *seychellarum*, which on account of its eyes certainly cannot be ascribed to *Philophylla*. This last genus seems therefore to be absent from the Ethiopian fauna. The genera of this group must be disposed as follows, with a modification of my table on pp. 218–219 of the first paper.

43(42). *Prst.* always present; two *s. or.*

44(45). Small cross-vein near or before the middle of the discoidal cell.

*a(b)*. Wings of usual shape, with straight costa and long second posterior cell, adorned with narrow vertical fuscous bands, which are often partly broken into spots .. .. . *Phorellia*, R. D.

*b(a)*. Wings towards the middle very broad, with the costa rounded outwardly and with very short second posterior cell; they are adorned with a broad rounded fuscous patch and with some curved dark bands  
*Taomyia*, gen. nov.

45(44). Small cross-vein beyond the middle of the discoidal cell, and often very near the hind cross-vein.

*c(f)*. Eyes in profile narrow, much higher than broad.

*d(e)*. Occipital lower swellings not developed; wings with yellow longitudinal stripes, the lower one bifurcate at end; thorax with black spots  
*Notomma*, gen. nov.

*e(d)*. Occipital lower swellings rather developed; wings with yellowish or fuscous, partly confluent, cross bands; thorax not black-spotted  
*Philophylla*, Rond.

*f(c)*. Eyes in profile broad and rounded; if they are rather narrow, the occipital lower swellings are not developed.

*g(h)*. Wings of usual shape, with short stigma and distinct costal bristle; *oc.* well developed; wings banded, at least on the apical half *Acidia*, R. D.

*h(g)*. Wings rather narrow, with parallel sides, with elongate stigma and without costal bristle; *oc.* very thin or even wanting; wings not banded, with the fore half usually entirely infuscated .. *Ocneros*, O. G. Costa.

#### **Taomyia**, gen. nov.

The present new genus is nearly allied to *Acidia* and *Philophylla*, differing from both in the very different shape and venation of the wings, which recall that of the Neotropical genus *Parastenopa*, Hendel, which however has no *oc.* and a differently shaped pterostigma. Head in front view a little higher than broad, in side view

with rather narrow eyes and distinct lower occipital swellings. Frons as broad as the eye, distinctly longer than broad, flat, with very short orbital plates; lunula broad. Face shorter than the frons, convex in the middle, with no prominent upper mouth-border and with diverging antennal grooves; cheeks linear; jowls narrow. Antennae inserted a little below the middle of the eyes, rather separated at base, shorter than the face; second joint less prominent above and not spinulose; third joint linear, twice as long as the basal ones, rounded at tip; arista quite bare. Palpi not very broad, bristly; proboscis short. *Ocp.* black and acute, less numerous; *oc.* very long and strong; one *s. or.*; 2 or 3 *i. or.*, only the middle pair being long, the other very short; genal bristle well developed. Thorax elongated, about twice as long as broad, with complete chaetotaxy, but the middle *scp.* are not developed; *dc.* placed much behind the line of the *a. sa.*; one *mpl.*; *pt.* rather thin. Thoracic suture broadly interrupted in the middle. Scutellum bluntly triangular, convex above, bare, with four bristles, those of the apical pair decussate at the end. Abdomen oval, elongate, not broader than the thorax, with terminal bristles; male genitalia prominent and appendiculate. Legs rather slender; front femora with 5 bristles below; middle tibiae with one spur; hind tibiae with only 4-5 longer bristles on the middle of the outer side. Wings of usual shape in the basal half, very broad and nearly semicircular in the apical half, broadly infuscated, with hyaline stripes, surrounding a large rounded middle patch. Costa very curved on its last portion; costal bristle hardly distinguishable; first vein not specially curved upwards at the end, the stigma being longer than broad; second vein straight; third vein bristly to the middle of its last portion, which is strongly curved downwards towards the end, and thus very divergent from the second and parallel with the last portion of the fourth; submarginal cell very widened at end; discoidal cell very long and much broadened outwardly, the hind cross-vein being perpendicular, arched outwardly, about three times as long as the basal cross-vein of the discoidal cell, and about as long as the terminal portion of the fourth vein; small cross-vein on or just beyond the middle of the discoidal cell; second posterior cell unusually short, higher than long; lower angle of the anal cell drawn out into an acute point, which is shorter than the second basal cell; axillary lobe broad; alula well developed and rounded.

Type: the following new species.

It is very probable that *Acidia* (?) *ocellata*, Lamb, 1914, from the Seychelles, belongs to the present genus, having a similarly formed head and a very similar wing pattern; but it has the small cross-vein placed beyond the middle of the discoidal cell, and two *s. or.* on the frons.

**Taomyia marshalli**, sp. nov. (Pl. xvii, fig. 9).

A very distinct fly of comparatively large size, at once distinguishable on account of its very characteristic wings.

♂. Length of body 7.5 mm.; of wing 7 mm.; breadth of a wing 3.2 mm.

Head of a dark reddish-brown colour; occiput shining, broadly blackened on the sides, light yellowish near the eye-borders and below; frons rather shining, with a blackish ocellar dot and an ill-defined blackish transverse band in front above the antennae; lunula shining yellowish; face shining, dark brown in the middle, more

yellowish towards the antennal grooves and on the sides; cheeks whitish; jowls unspotted. Antennae entirely pale yellowish, the third joint a little infuscated along the upper border; arista pale yellowish at base. Palpi yellowish; proboscis dirty brownish. All the cephalic bristles are black and rather thin; the frontal stripe seems to be bare on the middle. Thorax black on the back, but clothed with greyish dust and with three narrow parallel longitudinal black stripes, those on the dorsocentral lines extending about to the scutellum, while the middle one is abbreviated behind the transverse suture. The short pubescence of the back is black. The shoulders, the notopleural suture and the postalar calli are reddish brown, like the pleurae, which are blackened on the middle of the meso- and sternopleura, but are pale yellowish on the pteropleura, forming thus a broad perpendicular stripe; hypopleura blackish and shining; like the postscutellum and the mesophragma. Scutellum entirely yellowish with a narrow black basal band. All the thoracic bristles are black and rather thin. Squamulae dirty brownish; halteres pale yellowish. Abdomen black, shining, but with dark dust; pubescence and bristles black; genitalia yellow, black above and behind; the unpaired and strong appendage of the underside is similarly yellow. Legs pale yellowish, but the four posterior femora above on the apical half, and all the tibiae except the tip, are more or less blackened; bristles black, those of the front femora very thin. Wings whitish hyaline, with a very broad, dark brown pattern; an abbreviated stripe, extending from the middle of the stigma to the third longitudinal vein is yellow. Veins yellow, but darkened on the dark parts. Costal bristle very small. Extreme base of the wing hyaline; an arcuate brown band begins along the costa, filling up the whole of the first and the base of the second costal cell, and becoming gradually broader passes over the middle of the second basal cell, fills up the whole of the anal cell and is prolonged as an acute stripe along the sixth longitudinal vein, ending with a point at the hind border of the wing. The axillary lobe and the alula are quite hyaline. After this dark band there is a narrow, complete hyaline band, going from the middle of the second costal cell, over the apex of the second basal cell and over the base of the third posterior cell, to the hind border of the wing. The extensive brown pattern of the broadened apical half of the wing is thus sharply separated from the basal one; it consists of a rounded, very broad patch, which occupies the whole of the discoidal cell, and the greater part of the submarginal and first basal cells, and the entire third posterior cell. At the fore border there is the yellow stigmatic indentation, and after this a broader triangular oblique hyaline indentation, which reaches with its obtuse point the fourth vein, entering the end of the first basal cell; from this indentation departs a rather narrow hyaline arcuate band, which, running along the fore border, from which it is separated by a narrower brown costal band, ends in the upper angle of the second posterior cell. The yellow stigma is blackish brown at base and on the lower apical half.

Type ♂, a single specimen from Natal, Verulam, vii. 1897, collected by *Dr. G. A. K. Marshall*, in whose honour this fine insect is named.

### **Notomma**, gen. nov.

The present genus is erected here for a species which has a wing pattern recalling that of *Xanthorrhachista*, from which it differs in general appearance and in the



position of the small cross-vein, and *Craspedoxantha*, from which it differs in the bristly third longitudinal vein and in the position of the *dc.* bristles. In Prof. Hendel's table it runs down to *Neanomoea*, an undescribed Oriental genus from Formosa.

*Trypeta jucunda*, Loew, seems to be an allied form, but differs in the venation and in the shape of head, belonging probably to some peculiar, as yet undescribed genus.

Head a little narrower than the thorax, in front view about as broad as high, in profile rather flat, the eyes being narrow, with the vertical diameter about twice as long as the horizontal. Occiput flat, even a little convex on the upper half, destitute of distinct lower swellings. Frons gradually narrowed from the vertex to the antennae, flat, narrower than one eye in front, about one and a half times as long as broad, in profile a little prominent above the base of the antennae. Lunula broad. Eyes greenish, with a purplish horizontal band just above the middle. Face flat, with a distinct, broad and rounded middle keel and with shallow antennal grooves; mouth-border prominent; cheeks linear; jowls narrower than the breadth of the third antennal joint. Antennae inserted a little above the middle of the eyes; second joint short, small, bristly above; third joint broad, pubescent, parallel-sided, rounded at tip, not reaching the mouth, less than twice as long as broad; arista bare. Palpi broad, bristly; proboscis short and thick. Cephalic chaetotaxy complete and well developed; *ocp.* acute, black; *pvt.* thin and parallel; two pairs of *vt.*, the inner ones not much longer; *oc.* robust but not long; two *s. or.* and three *i. or.*; genal bristle strong, like the bristle on the lower part of the occiput. Thorax robust, flat, subquadrate, with complete chaetotaxy; the middle *scp.* are approximated and as long as the outer ones; *a. sa.* strong; *dc.* placed much behind the line of the *a. sa.*; *prsc.* approximated; two *mpl.*; *pt.* about as strong as the *st.* Scutellum convex above somewhat *Ceratitis*-like in shape but not trilobate, with four strong bristles, the apical ones diverging. Abdomen in the middle broader than the thorax, narrowed at base and at the end; it has five segments, the last with bristles at the sides and behind; ovipositor elongate triangular, rather swollen. Legs short and stout; front femora with a complete row of strong bristles beneath; middle tibiae with one spur; hind tibiae with a complete row at the outer side; claws curved; middle tibiae without bristles on the hind side. Wings elongated and proportionally narrow; costa not ciliated and without costal bristle. They are adorned with two longitudinal yellow bands, one along the fore border and the other along the middle; this last is bifurcate into a recurrent band across the hind cross-vein and along the hind border of the wing. Auxiliary vein strong; first longitudinal vein long, ending beyond the middle of the wing but always before the small cross-vein; stigma long, in the middle about three times as long as broad; second and third veins rather approximated, slightly sinuous, the third bristly throughout its whole length; the last portion of the fourth vein is slightly sinuous and nearly parallel with the last portion of the third, which ends nearer the tip of the wing, but the first posterior cell is much broader at end than at base; small cross-vein placed exceedingly near the end of the discoidal cell, its distance from the hind one being about equal to its own length; hind cross-vein curved and oblique outwardly, its lower end.

being very near the hind border of the wing; discoidal cell very broad at end; second posterior cell very short, above only a little longer than broad at base; second basal cell rather broad and short; anal cell with the lower angle acute and prolonged, but not longer than the second basal cell; sixth vein reaching the hind border of the wing. Axillary lobe broad and short; alula rounded.

Type: the following new species.

**Notomma bioculatum**, sp. nov. (Pl. xvii, fig. 10).

A reddish brown species, with two deep black spots on the middle of the back of the mesonotum.

♀. Length of body 6·5 mm.; of wing 6·5 mm.; of ovipositor 1·5 mm.

Head entirely yellowish, with only a small black dot on the ocelli. Occiput shining, on the lower part with faint pale dust and with some rather long and soft pale hairs. Frons opaque, with shining ocellar and vertical plates and some scattered dark hairs on the middle. Face with whitish dust. Antennae entirely yellowish, even the arista; palpi and proboscis yellowish, the latter with dirty blackish flaps. All the cephalic bristles are black. Thorax reddish brown, shining on the back; it is clothed with faint greyish dust and short black pubescence, disposed in regular approximate longitudinal rows; the two very striking, deep black, opaque spots are of oval shape and placed on the dorsocentral lines, just behind the suture; the pleurae are paler and more shining, and clothed with rather long, scattered black hairs. Scutellum coloured and pubescent like the back of the mesonotum; at hind border it has three ill-defined, shining brown spots, a smaller one between the apical pair of bristles, and a larger one on each side between the basal and apical pairs of bristles. All the bristles are black. Squamulae reddish, with a dark fringe; halteres reddish yellow. Postscutellum reddish, with two rounded black spots; mesophragma entirely of a shining reddish colour. Abdomen shining reddish, with black pubescence and black bristles; the hind border of the segments is more lightly coloured; the venter likewise; ovipositor shining reddish. Legs entirely reddish, with paler tibiae and tarsi; bristles and spurs black. Wings shining and iridescent with yellowish veins. The first yellowish band is complete from the base to the tip of the wing, going throughout along the costa, but leaving two hyaline streaks in the marginal and submarginal cells, just before and behind the end of the second longitudinal vein; in the middle this band does not extend below the second vein, while at base it reaches the fourth vein just above the second basal cell, and at the end it extends below the third vein to the middle of the end of the second posterior cell; at the end there is a blackish infuscation, on both sides of the apex of the third longitudinal vein; in the middle of the marginal cell there is a black rounded spot, just beyond the entirely yellow stigma. The second longitudinal band is of a paler yellowish colour above, but infuscated below and at the end; it begins on the anal cell and on the lower part of the second basal cell, and goes across the base of the discoidal and the apex of the first basal cell to the small cross-vein; it there becomes narrower and is bent downwards, going along the last portion of the fourth vein to the costa, which is reached just below the tip of the fourth vein itself. From this band arises another, which forms a border along the hind cross-vein and extends beyond it as a border along

the hind border of the wing to the end of the sixth vein; this recurrent band is yellowish interiorly and fuscous exteriorly. The hyaline band between these two yellow longitudinal bands is nearly equal in breadth throughout its whole length and is bent just above the small cross-vein, entering there as a small streak into the marginal cell, below and before the rounded black spot of the fore border. The hyaline band between the central yellow band and the recurrent posterior band ends with a rounded tip in the base of the first posterior cell just behind the small cross-vein; at base this band is united with the hyaline axillary lobe. The second basal cell is almost entirely hyaline, while the discoidal and third posterior cells are almost entirely infuscated except the broad hyaline band mentioned above.

Type ♀, a single specimen from the Gold Coast, Aburi, 1912-13 (*W. H. Patterson*).

### **Acidia**, Rob.-Desv., 1830.

Three species are provisionally placed in the present genus, those here described as new being very like the European *A. caesio*; they may be distinguished as follows:—

- 1(4). Discoidal and third posterior cells with hyaline streaks or spots.
- 2(3). Thorax and femora black; the apical dark bands of the wing broadly united with the basal patch, the second hyaline indentation of the fore border being quite wanting; discoidal and third posterior cells each with a hyaline rounded spot .. .. . *seychellensis*, Lamb.
- 3(2). Thorax and femora entirely yellow; the apical dark bands quite separated from the basal pattern by the second indentation, which forms a complete hyaline cross-band; discoidal and third posterior cells, each with a hyaline streak .. .. . *fossataeformis*, sp. n.
- 4(1). The above-named cells entirely fuscous and destitute of hyaline parts; body and femora entirely black; wings with two hyaline indentations at fore border .. .. . *homogenea*, sp. n.

#### **Acidia fossataeformis**, sp. nov. (Pl. xviii, fig. 1).

An elegant species very like the Oriental *A. fossata*, F., but at once distinguished by its entirely yellow thorax and legs.

♂ ♀. Length of body 4.5-5 mm.; of wing 4-4.5 mm.; of ovipositor 0.8 mm.

Head entirely yellow and unspotted, except the very small black ocellar dot. Occiput flat on the upper half, even a little concave above the median tubercle, convex but not very prominent on the lower half, without distinct swellings. Frons reddish yellow, opaque, with scattered dark hairs and moderately shining vertical plates; it is parallel-sided, narrower than the eye,  $2\frac{1}{2}$  times as long as broad; lunula broad and short, semicircular, whitish, with brown upper border. In profile the frons is only a little prominent above the antennae; the eyes are rather rounded, their vertical diameter being only a little longer than the horizontal. Face flat and long, not prominent at mouth-border, with a broad middle keel and not very deep antennal grooves; cheeks linear, whitish; jowls whitish, unspotted, as broad as the breadth of the third antennal joint. Antennae entirely yellow, inserted at the middle of the eyes, short, extending only to the middle of the face; second joint swollen and prominent, with a short bristle above; third joint rather

small, short, attenuated apically but with rounded tip; arista with rather long pubescence, but the breadth of feathering narrower than the breadth of the third antennal joint. Palpi and proboscis short, yellowish, pale-haired. All the cephalic bristles are black and rather thin; *ocp.* well developed and acute; *pvt.* parallel; outer *vt.* half as long as the inner ones; *oc.* short and thin; two *s. or.* and three *i. or.*; genal bristle well developed. Thorax reddish yellow on the back, very little shining, with faint whitish dust and short dark pubescence; the pleurae are paler and more shining, with scattered longer dark hairs. All the bristles are black; chaetotaxy complete; *scp.* well developed, the middle ones approximated; *dc.* placed much behind the line of the *a. sa.* and near to the *prset.*; only one strong *mpl.*; *pt.* as strong as the *st.* Scutellum triangular, as long as broad, flat above, with lateral keels; it is coloured like the back of the mesonotum, but is more bare and shining; it has four black bristles, the apical ones being shorter and decussate. Squamulae and halteres pale yellowish; the former with a short thin white fringe. Postscutellum and mesophragma entirely reddish yellow and shining. Abdomen of usual shape, as broad as the thorax towards the middle; it is shining reddish yellow, but sometimes very infuscated in the male and even brownish or blackish; the pubescence and terminal bristles are black; venter more yellowish, with faint pale dust. Male genitalia shaped as in *fossata*, with a pair of long and stout appendages, the basal one reddish, while the apical one is black, and longer and stouter. Ovipositor with the basal segment broadly triangular, shining black, the apical segment narrow and dark reddish; the contrast between the reddish abdomen and the black ovipositor is very striking. Legs rather slender, entirely yellowish; front femora with 3-4 long black bristles beneath at the end; middle tibiae without bristles, with one black spur at the end; hind tibiae with no distinct row. Wings shining and iridescent, with non-ciliated costa and with a short but distinct costal bristle. The veins are yellowish at base and on the hyaline parts, black on the rest; the second longitudinal vein is a little sinuous; the third vein is bristly throughout its whole length; the second, third and fourth veins are equally divergent towards the apex, ending at equal distances; the last portion of the fourth vein is straight; the small cross-vein is placed beyond the middle of the discoidal cell; the hind cross-vein is straight, perpendicular, a little longer than its distance from the small one; inferior angle of the anal cell produced, long and narrow, but not longer than the second basal cell; sixth longitudinal vein complete. The base of the wing is yellowish in the basal and costal cells, even the brown stigma being yellow at base. The pattern is blackish brown and about the same as in *fossata* (*vide* Bezzi, Mem. Ind. Mus., iii, 1913, pl. ix, fig. 48), which however has the wings distinctly broader.

Type ♂, type ♀, and some additional specimens of both sexes from Nyasaland, Chiromo, Ruo R., 2.i.1917 (*R. C. Wood*).

### ***Acidia homogenea*, sp. nov.**

A black species, with a wing pattern very like that of the European *A. caesio*, but at once distinguished from it and from the other species by the discoidal and third posterior cells being completely infuscated, without hyaline spots or streaks.

♀. Length of body 4 mm.; of wing 4 mm.; of ovipositor 0.6 mm.

Entirely shining black, the head, antennae, tibiae and tarsi in part yellowish or whitish. Head as broad as the thorax, rounded in front view and about as high as broad; it is rather narrow in lateral view, the eyes being considerably higher than broad. Occiput entirely black, shining above, grey-dusted below, without lower swellings; it is narrowly reddish on its lower portion. Frons narrow and long, parallel-sided, narrower than the eye, twice as long as broad; it is entirely reddish, opaque, with shining white sides, and with a small blackish ocellar dot, the narrow and short vertical plates are shining; lunula broad, semicircular, whitish. Antennae inserted near the middle of the eyes; the two basal joints are yellowish; third joint wanting in the type. Face only a little shorter than the frons, as broad as it above, but twice as broad below; it is flat, with shallow antennal grooves, and no prominent mouth-border; it is blackish, with a shining white dust, yellowish only on the flat middle keel; cheeks linear, hardly distinguishable; jowls very narrow, reddish, unspotted. Palpi and proboscis dirty yellowish, the former dilated at the end, the latter short and thick. Cephalic bristles missing in the type, but judging by the insertion points there are two *s. or.* and three equally distant *i. or.* Thorax entirely shining black, not dusted on the back; scutellum similar, triangular, flat above; pubescence and bristles abraded in the type, but the *mpl.* and *st.* are present on one side and are black; the scutellum has certainly four bristles; the *dc.* are placed very near the suture. Squamulae brownish; halteres black. Abdomen entirely shining black, with short black pubescence and black bristles at the end; ovipositor shining black, triangular, flat, proportionally short; apical segment reddish; venter black. Legs with shining black femora; front tibiae entirely, four posterior ones on the apical half, whitish, like the whole of the tarsi. Wings rather broad, with the membrane shining and iridescent, chiefly on the hyaline parts; costa and veins black, but whitish on the hyaline parts. First longitudinal vein short, the stigma being about as long as broad at base; second vein straight; third vein bristly to the small cross-vein, bent downwards beyond middle of its last portion; last portion of the fourth vein curved and slightly diverging from the third; small cross-vein beyond the middle of the discoidal cell; hind cross-vein straight and perpendicular, a little longer than its distance from the small one; lower angle of the anal cell narrow and shortly produced. The blackish pattern is very like that of *A. caesio*, or of the Formosan "*Trypeta*" *superflucta*, End. (Zool. Jahrb. xxxi, 1911, p. 428, fig. J); but it differs in having more than the basal half of the wing entirely blackish, without any hyaline indentation of the fore border before the stigma, and without any hyaline spot or streak in the discoidal or third posterior cells; only the axillary lobe is hyaline. The stigma is deeper black than the surrounding parts. The first hyaline indentation of the fore border beyond the stigma is as in *caesio*; the second likewise, but ending with a narrow point on the fourth longitudinal vein, without entering the discoidal cell. The two hyaline apical indentations of the hind border are as in *caesio*, the black streak between them being complete and not interrupted at base (differing thus from that of *fossata* and *fossataeformis*, in which it is isolated).

Type ♀, a single specimen from Nyasaland, Port Herald, iv.-vi. 1913 (*Dr. J. E. S. Old*).

**Ocneros**, O. G. Costa, 1844.

In the typical species of the present genus the *dc.* are placed near the suture, while in the known Ethiopian species they are placed much behind. It seems thus probable that the latter species are not congeneric with the palaeartic ones; but I have not erected a special genus for them, because they may perhaps be better placed in the following genus *Ocnerioxa*, which differs only in the non-bristly third longitudinal vein.

The genus seems to be abundantly represented in the Ethiopian fauna; I have before me two additional new species, which belong to the group of *O. sinuatus*. This group is not only distinguished by its colour characters, but also by the slender body, the longer antennae (which are nearly extended to the mouth-border), the distinctly pubescent arista, the thin and prevalently yellow macrochaetae of the head, thorax and scutellum, the longer pterostigma, and by the last portion of fourth longitudinal vein being quite straight. To the characters of the genus must be added that the *i. or.* are accompanied by additional bristly hairs.

The known species may be distinguished, by a modification of the table on p. 250 of my first paper, as follows:—

- 1(2). Scutellum entirely yellow; discoidal cell wholly infuscated, without hyaline spots; stigma as long as or longer than the second costal cell; antennae about as long as the face, with a shortly pubescent arista; macrochaetae mostly yellow.
- a(d)*. Base of stigma narrowly hyaline, at least near the costa; there is a small hyaline dot in the base of the first posterior cell, just above the hind cross-vein.
- b(c)*. Hyaline spot in the marginal cell beyond the stigma triangular and extended to the second longitudinal vein; the fuscous portion of the wing has below only a median broad projection, which extends about to the hind border in the hyaline part of the wing .. .. . *sinuatus*, Loew.
- c(b)*. Hyaline spot of the marginal cell in the shape of an elongate stripe near the costa, which does not extend below beyond the middle of the cell; the fuscous portion is wavy below, with 4–5 projections, which are all far from the hind border of wing .. .. . *undatus*, sp. n.
- d(a)*. Base of stigma with a broad hyaline spot; no hyaline dot in the base of the first posterior cell; fuscous part of wing ending below with one acute median projection, which reaches the hind border of wing along the fifth vein.. .. . *bigemmatum*, sp. n.
- 2(1). Scutellum broadly black in the middle; discoidal cell with hyaline spots; stigma shorter than the second costal cell; antennae much shorter than the face, with bare arista; macrochaetae black .. .. . *mundus* and *excellens*.

**Ocneros undatus**, sp. nov.

A slender and pale-coloured species of smaller size, very distinct on account of the lower border of the fuscous part of the wing being wavy and remote from the hind border of the wing.

♀. Length of body 4 mm.; of ovipositor 1 mm.; of wing 4.5 mm.

Head entirely yellow and opaque; occiput with a narrow black stripe on each side, extending from the neck to the lower third of the eyes; frons narrower than the eye and longer than broad, unicolorous, with a very small black ocellar dot. The face and unspotted jowls are yellowish, while the occipital lower swellings are more lightly coloured and surrounded above with the black stripe; upper mouth-border prominent. Antennae entirely pale yellowish, only a little shorter than the face, with the third joint rather broad, and with a shortly pubescent arista. Palpi and proboscis pale yellowish. All the cephalic bristles are pale yellowish, only the short outer *vt.*, the acute and numerous *ocp.* and the *i. or.* being black; there are no distinct ocellar bristles; there are only two pairs of longer *i. or.*, but on the same line are some black, much shorter, bristly hairs. The lower occipital hairs are whitish; the bristly hairs near the borders of the mouth are yellowish. Thorax entirely yellowish, less shining, with pale short golden-yellowish pubescence; on each side there are two black longitudinal stripes, one extending from the shoulders along the notopleural line to the root of the wing, and continuous with the black postalar calli and the very glistening black mesophragma; the other is parallel with the former but ends at the suture, being continued beyond it only by a short ill-defined darkish stripe; the occipital black stripe is continuous with the notopleural one. The pleurae and the breast are entirely whitish yellow, unspotted, the contrast between the black and the whitish parts being very striking, when the thorax is viewed from the side. Hypopleural spot whitish. Scutellum of a light yellowish colour, like the posterior part of the back of the mesonotum, but a little more shining. Postscutellum shining black. All the macrochaetae are yellowish, those of the pleurae being lighter; one *mpl.*; *pt.* much weaker than the *st.*; even the *scp.* are black. Squamulae blackish, with a long dark fringe; halteres pale yellowish. Abdomen shining yellow on the basal half, blackened on the apical half, the last three segments having black lateral borders; venter whitish; hairs and bristles yellowish. Ovipositor flattened, broadly obtuse at the end, shining reddish with pale pubescence. Legs entirely whitish yellow, those of the front pair wanting in the type; apical spur of the middle tibiae black; hairs of the posterior row of the hind tibiae brownish. The wings are almost wholly and evenly infuscated; the lower border of the fuscous part ends about on a line extending from the point of the anal cell to the lower anterior corner of the discoidal and the upper third of the second posterior cell; but this line is wavy, having some rounded projections, three of which are in the second and three in the third posterior cell. There is besides a very small subhyaline rounded dot in the basal part of the first posterior cell, a little before the hind cross-vein and closer to the fourth than to the third longitudinal vein. The stigma is as long as the second costal cell and is black, with a narrow short subhyaline streak near the base at costa, being as broad as a third only of the stigma itself. The hyaline streak at fore border beyond the stigma is shorter than the stigma itself, and does not extend below beyond the middle of the marginal cell. The small alula is entirely brown, while the axillary lobe is entirely hyaline. The third longitudinal vein has 2-3 bristles beyond the small cross-vein. The last portions of the third and fourth longitudinal veins are quite straight and parallel, or only a little divergent.

Type ♀, a single specimen from Nyasaland, Mt. Mlanje, 2.iii.1913 (*S. A. Neave*).

**Ocneros bigemmatum**, sp. nov. (Pl. xviii, fig. 2).

Very like the preceding species, but distinguished by its larger size, and the different pattern of the thorax and wings.

♀. Length of body 5.5 mm. ; of ovipositor 1 mm. ; of wings 6 mm.

Head, its appendages and bristles exactly as in the preceding species ; the two occipital black spots are broader, shaped as a triangular patch, the outer corner of which does not reach the border of the eyes ; there are besides two approximated black stripes above the neck, directed towards the vertex, wanting in *O. undatus*. Thorax and scutellum, and their pubescence and bristles, exactly as in the preceding species ; there is also an equally narrow, black, notopleural stripe in continuation of the occipital one, and therefore there is the same striking contrast with the whitish pleurae ; the interior stripe is however much broader and ends at the suture, but is continued beyond it with a broad stripe on the dorsocentral lines, extending nearly to the lateral edges of the scutellum. The mesophragma is shining reddish, brownish fuscous on the sides, like the postscutellum. Halteres and squamulae as in *O. undatus*. Abdomen more elongate, shining reddish ; the three terminal segments more broadly black on the sides and middle ; bristles black ; venter darker ; ovipositor shining black, with blackish pubescence. Legs as in the preceding ; front femora with only three rather thin and yellowish bristles on the apical half beneath. Wings as in *O. undatus*, but with the following differences : (a) at base of the stigma there is a broad whitish-hyaline spot, extending below to the first longitudinal vein ; (b) the whitish hyaline spot beyond the stigma has the shape of an oblique band, which goes from the end of the first vein across the middle of the marginal cell to the second vein ; (c) there is no trace of the hyaline basal dot of the first posterior cell ; (d) the lower border of the fuscous part is more irregular, showing a blackish tooth in the middle of the upper border of the third posterior cell, and another more elongate tooth on the outer inferior angle of the discoidal cell, reaching the hind border of the wing along the fifth longitudinal vein ; in the second posterior cell the border of the fuscous part forms a straight line, which has no indentations or projections (or only a little so beyond the fourth vein), the cell being thus mainly hyaline ; along the middle of the anal cell there is also a subhyaline longitudinal stripe, which is wanting in the preceding species.

Type ♀, a single specimen from British East Africa, Embu, 12.xii.1913 (*G. H. J. Orde-Browne*).

**Ocnerioxa**, Speiser, 1915.

The species of the present genus show a great resemblance to those of the first group (*sinuatus*, *undatus* and *bigemmatum*) of *Ocneros* ; they have the same appearance and the same colour pattern of body and wings, being probably congeneric. They can be distinguished only by the third longitudinal vein being quite bare, or scarcely setigerous before the small cross-vein only ; and also by the bare, non-pubescent arista and by the less developed orbital hairs between the fronto-orbital bristles.

In the new material there is the following undescribed form.



**Ocnerioxa discreta**, sp. nov.

Very like *O. woodi* from Nyasaland, but more slender, smaller and distinguished by some minor details in the coloration of the head, abdomen and wings.

♂. Length of body 4 mm. ; of wing 4.5 mm.

The body is narrower than in *woodi*, the thorax measuring about 1 mm. only in breadth, while in *woodi* it is 1.5 mm. broad. Besides there are the following differences : (a) the occiput has only the two lateral black stripes, the two middle ones being quite absent ; (b) the frons is entirely whitish, even above the roots of antennae, the black band of *woodi* being quite wanting, and thus the white lunula is not conspicuous ; (c) the third antennal joint is not at all infuscated ; (d) the black transverse band at the upper mouth-border is reduced to two small spots, one on each side of the mouth-edges, and these spots are moreover dull ; (e) the jowls are entirely whitish, quite destitute of the fuscous subocular spot ; (f) the black notopleural stripe is narrower, and there is a faint indication of an anterior median fuscous stripe, and the mesophragma is dark reddish in the middle ; (g) the abdomen is not at all greenish, and has the fourth segment yellowish, with narrow black sides and hind border ; (h) the wing pattern is identical, but the fuscous tooth below the outer lower angle of the discoidal cell along the fifth longitudinal vein is much shortened, not being extended to the hind border of the wing.

These small differences, together with the very different habitat, may be considered of specific value.

Type ♂, a single specimen from N. Nigeria, Zungeru, 5.xi.1910 (*Dr. J. W. Scott Macfie*).

**Allotrypes**, gen. nov.

This is a rather aberrant genus, which on account of its bare third longitudinal vein, black and strong *ocp.* and its general appearance, comes in the vicinity of *Aciura*, being however very distinct from it in the chaetotactic characters, as well as in the wing pattern.

Head a little broader than the thorax, but in front view about as broad as high. Occiput distinctly concave above the neck, and less prominent below, with the lateral lower swellings but little developed. Frons flat or even a little concave before the lunula, with about parallel sides, as broad as one eye, only a little longer than broad. In profile the frons is not at all prominent, not even above the antennae ; the eyes are rounded, with the vertical diameter only a little longer. Lunula small. Face long, only a little narrower but distinctly a little longer than the frons ; it is about parallel-sided, flat, with no prominent mouth-border, and with shallow but long antennal grooves. Cheeks linear ; jowls very narrow, narrower than the third antennal joint. Antennae inserted distinctly above the middle of the eyes ; they are very short, not extending beyond the middle of the face ; second joint not prominent, shortly setulose above, destitute of long bristles ; third joint pubescent, attenuate at end but obtuse,  $1\frac{1}{2}$  times as long as broad ; arista shortly pubescent. Palpi and proboscis short, retracted into the oral cavity. Cephalic bristles very strong and peculiarly curved ; no distinct *pvt.* ; *ocp.* numerous,

long, unusually strong, black, acute at end; inner *vt.* very long, more than twice as long as the outer ones, strong, curved backwards beyond their middle; one *s. or.* and one *i. or.*, equally strong and long and both curved backwards; the single *i. or.* is placed much in front, near the lunula; *oc.* strong, but not very long; on the sides of frons there are thus only two pairs of bristles, one near the base and one near the end; genal bristle less strong. Thorax proportionally narrow, less convex above, shining on the back, with the suture broadly interrupted. The bristles are strong and the chaetotaxy is complete, except the *scp.*, which are not distinct; *dc.* placed only a little behind the line of the *a. sa.*; *prset.* only a little closer together than the *dc.*; one *mpl.* only; *pt.* and *st.* very strong, curved upwards. Scutellum triangular, as long as broad, flat above, with distinct lateral keels; it has four bristles, the basal ones very strong and long, the apical shorter, thinner and decussate. Abdomen narrow and elongate, not narrowed at base, with about parallel sides throughout its whole length; it has five segments, the last one with less developed bristles; ovipositor flattened, triangular, about as long as the last three abdominal segments together. Legs proportionally slender and bare; front femora with two long bristles below on the apical fourth; middle tibiae with a single spur; hind tibiae destitute of a distinct row of bristly hairs on the outer side. Wings of usual shape, but rather narrow at base, the axillary lobe being little developed and the alula very narrow. They have a characteristic and rather aberrant pattern (for the group), consisting in a broad infuscation extending almost over the whole wing, with the fore border broadly yellowish-hyaline on a little more than the basal half; there are no hyaline spots, and no hyaline indentations. Costa not ciliated; with a short but strong costal bristle. Auxiliary vein typical, distinct throughout, with diffuse end; stigma short, about as long as broad; first vein hairy and rather short, ending much before the small cross-vein, its distance from the end of the second vein being about twice as long as that of the second from the third vein. Second vein in its last half strongly diverging from the third, which is quite straight throughout and quite bare. Fourth vein straight and parallel with the third; small cross-vein placed beyond the middle of the long discoidal cell; hind cross-vein straight, perpendicular and rather short, being shorter than, or nearly as long as its distance from the small one; last portion of the fifth vein proportionally long and strong; sixth vein complete, but colourless on more than its apical half. Second basal cell but little developed; anal cell broader but shorter than the second basal cell, with an acute but not or very little produced lower angle.

Type: the following new species.

**Allotrypes brevicornis**, sp. nov. (Pl. xviii, fig. 3).

A narrow elongate species not unlike some forms of *Aciura*, but very distinct on account of its wholly testaceous thorax, and its peculiar wing pattern.

♀. Length of body 4.5 mm.; of ovipositor 1.5 mm.; of wing 4.5 mm.

Head reddish above, pale yellowish below; occiput with two broad shining black spots of triangular shape, with the base on the eye-border and the narrow apex reaching the insertion of the neck; these two spots are separated by a yellowish triangle which has the vertex at the neck and the base at the vertical edge.

Ocellar dot small and black. Frons reddish yellow, shining, with sparse short hairs in the middle. Antennae entirely reddish yellow, with the third joint paler. Face pale yellowish, shining in the middle below; the cheeks and jowls are clothed with a faint whitish dust. Palpi and proboscis pale yellowish or whitish. All the cephalic bristles are of a deep black colour. Thorax and scutellum entirely shining testaceous; the back has very short scattered black hairs and no distinct dust; humeri and pleurae paler than the back; all the bristles are black. Mesophragma shining, more or less infuscated in the middle, or even brownish. Halteres and squamulae reddish yellow. Abdomen shining testaceous, distinctly darker than the back of the mesonotum, even blackish brown in the middle of the segments and behind; pubescence and bristles black; ovipositor shining black on the basal half, dark reddish-brown on the apical half, but sometimes entirely black. Legs entirely reddish yellow, with the front tibiae and the front tarsi infuscated; bristles and spurs black. Wings shining, but slightly iridescent; veins and costa yellowish on the light parts, and brownish on the dark ones. Stigma yellowish. The yellowish-hyaline basal part of the pattern extends over the costal, marginal and submarginal cells to the third vein; the marginal cell however has its end brown, while the submarginal cell is brown on its apical half; this clear basomarginal band is yellowish in the middle, being hyaline at the two ends only; sometimes there is a distinct, but not sharply defined, rounded dark spot in the middle of the hyaline part of the marginal cell near the costa (this spot is wanting in the type). The rest of the wing is uniformly brown, only the posterior border of the third posterior cell, of the axillary lobe and of the alula being hyaline; the second posterior cell is somewhat more clear on the middle of its hind border.

Type ♀, a single specimen from Durban, Umbilo, 14.vii.1914 (*L. Bevis*); I have seen an additional specimen from Zululand in the collection of the South African Museum, Capetown.

#### **Aciura**, Rob. Desv., 1830.

Of the present "genus" there are in the new material before me three species, one of which is not yet described and differs from all the others in having all the occipital bristles black, like *binaria*, Loew, which is however a very different species.

#### **Aciura perpicillaris**, sp. nov. (Pl. xviii, fig. 4).

A small elongate slender species, which is allied to *angusta* in having the axillary cell rudimentary, but differs from it and from all the others of the same group in having all the occipital bristles black, and the discoidal cell entirely black with a single hyaline rounded spot near its extreme base.

♂♀. Length of body 3-3.2 mm.; of ovipositor 1.5 mm.; of wing 3.6-4 mm.

Head entirely shining black and very glistening on the occiput, vertex and orbital plates; the very narrow orbits and the linear cheeks are clothed with greyish or whitish dust; the very narrow jowls are dark reddish brown, like the anterior part of the frontal stripe. Lunula very small. Antennae inserted below the middle of the eyes, entirely black; third joint rounded at tip and grey-dusted;

arista long and with rather long pubescence, its feathering being about as broad as the breadth of the third antennal joint. Palpi whitish; proboscis dirty brown. All the cephalic bristles are black, even those of the occipital row; two *s. or.*, the basal one much smaller; three *i. or.*, the apical ones much smaller; *oc.* as developed as the basal pair of the *s. or.*; occipital hairs sparse and black. Thorax narrow and elongate, shining black, more glistening on the sides and on the pleurae; the short and very sparse pubescence of the back is black; all the bristles are black; *dc.* placed before the line of the *a. sa.*; one *mpl.*; *pt.* weaker than the *st.* Scutellum shining black, with only the *b. sct.*, which are very long and divergent. Postscutellum and mesophragma shining black like the hypopleural callosities; halteres black; squamulae dark and with a dark fringe. Abdomen narrow and elongate, narrower than but about as long as the thorax; it is shining black, with sparse black pubescence and short black bristles; in the male it is obtuse at the end, the genitalia being shining black and placed inferiorly at the side; in the female the ovipositor is as long as the abdomen, glistening black and with black pubescence, broad at base and acute at end, depressed; the apical segment is dark reddish-brown at base. Venter shining black, with a faint dark grey dust. Legs rather long and slender; they have dark brown coxae and reddish trochanters; the femora are shining black, but narrowly brownish on the sides; the four anterior tibiae are yellow like their tarsi; the hind tibiae are broadly darkened at base, more broadly in the female, and the tarsi are dark yellowish; front femora with 2-3 thin black bristles beneath on the apical half; hind tibiae destitute of a distinct row of bristles on the outer side. Wings very narrow and elongate, with rudimentary axillary lobe and alula, but appearing not so cuneate as in *angusta*, because they are not dilated distally and have a much narrower third posterior cell. The veins are black, but the costa and the first longitudinal are yellow in the two hyaline indentations of the fore border; costal bristle long and strong. The wing pattern is like that of *angusta*, differing chiefly in the presence of two hyaline central spots, and in the indentations of the hind border being more spot-like. The base is entirely hyaline, without the obtuse black band of *angusta*, or only with a faint indication of it below the humeral cross-vein. The stigma is entirely black and about as long as the black apical part of the second costal cell. The two hyaline indentations of the fore border are broader, more regularly triangular and of equal size; the black band between them is broadly triangular and disposed perpendicularly to the costa; the tips of the hyaline indentations are placed exactly on the third vein and are obtuse, but at the upper end of the small cross-vein there is a very narrow short hyaline streak, which is separated from the vertex of the second hyaline indentation. A little before the middle of the first posterior cell there is a rather broad, rounded or shortly oval, hyaline spot as in the following species. The discoidal cell is entirely black, but near its base there is a rounded hyaline dot, which is smaller than the above-named one. The three hyaline indentations of the hind border are very different from those of *angusta*, being much shorter and not produced into the discoidal cell; the two indentations of the third posterior cell have the shape of two rounded spots; the indentation of the second posterior cell is twice as long as the other, but is broad and not stripe-like. The axillary lobe and the alula are hyaline. The third posterior cell is much narrower than

in *angusta*, while the axillary cell is equally narrow; the hind cross-vein is short, nearly straight and perpendicular, the lower outer angle of the discoidal cell being thus not acute and not produced; lower angle of the anal cell not acute.

Type ♂, a single specimen from British East Africa, Embu, 11.iii.1913 (*G. H. J. Orde-Browne*); type ♀, a single specimen from Gold Coast, Aburi, 27.xii.1914 (*Dr. J. W. Scott Macfie*).

***Aciura oborinia***, Walker (1849). (Pl. xviii, fig. 5).

A comparatively large species, like the following one, but at once distinguished by the hyaline basal spot of the third posterior cell.

I assume the present species to be that of Walker, because it corresponds in the size and answers very well to the description of the wing pattern; but Walker says decidedly that the bristles at hind border of head are black, while in the present specimens they are whitish yellow, like in the following and in the allied species. In this character the species agrees better with the preceding one (*perspicillaris*), which has also the hyaline spot of the first posterior cell; but I think that *perspicillaris* cannot be Walker's species, being much smaller and having a very different wing pattern.

I will give here a short redescription of what I believe to be Walker's species.\*

♂♀. Length of body 4.5–5 mm.; of ovipositor 2 mm.; of wing 5.5–6 mm.

Head reddish brown, with black occiput, black ocellar plate and black vertical plates; antennae with reddish basal joints and infuscated third joint; lunula not specially developed. Thorax shining black, more glistening on the sides and pleurae; the short dorsal pubescence is yellowish; the bristles are black. The scutellum is not well preserved, and seems to have no trace of *a. set.* Halteres yellowish. Abdomen narrow and elongate, shining black, with black pubescence and black bristles; ovipositor as long as the abdomen, shining black. Legs long and rather slender, black, with the tibiae at end and the tarsi yellowish; front femora with three black bristles beneath. Wings with a rather broad and quite hyaline axillary lobe. The pattern is as described by Walker; the black basal stripe extends from the first costal cell to the middle of the second, ending there obliquely and separated from the black stigma. The second hyaline indentation of the fore border extends with its acute point into the base of the first posterior cell, along the outer side of the small cross-vein; the oval whitish spot at the base of the first posterior cell is placed much before the middle of the cell itself, only a little beyond the upper end of the posterior cross-vein. The three indentations of the hind border are narrow and oblique, the basal one entering the base of the discoidal cell and reaching the fourth vein, while the much shorter middle one enters only with a very short point and the third stops just at the upper basal angle of the second posterior cell. The last portions of the third and fourth longitudinal veins are slightly but distinctly convergent towards the end; the two cross-veins are very close together, their distance on the fourth vein being shorter than the length of the small cross-vein; the hind cross-vein is curved and oblique, the lower exterior angle of the discoidal cell being acute and produced; third posterior cell as broad as the axillary lobe; lower angle of the anal cell rather acute but not produced. Costal bristle long.

\*[The specimens described by the author agree well with Walker's type.—ED.]

A couple of specimens from Uganda Protectorate, Entebbe (Forest), 3,800 feet, 5-11.vii.1911 (*S. A. Neave*).

***Aciura tetrachaeta***, Bezzi (1918).

Of this characteristic species, described from N. W. Rhodesia, there is a couple of specimens from Natal, Estcourt, ix.-x. 1896, and Malvern, 1897 (*G. A. K. Marshall*).

The as yet undescribed male is very like the female; its abdomen is obtuse at the end, and the genitalia are black. The pubescence of the back of the thorax is yellowish, and the bristles are likewise yellowish but more or less infuscated, those of the pleurae being black. The front femora are yellow on the inner side and bear four long bristles beneath. The greyish shade in the middle of the first or basal indentation of the hind border is not distinct in the present specimens.

***Spheniscomyia*** Bezzi, 1913.

I place in this genus a new species, which is rather aberrant in lacking the *a. sct.*; but in size, in the chaetotactic characters of the head, the black *ocp.*, the form of the scutellum and in the faint dust of the thorax, it agrees with the typical species. On account of these characters, it is very different from the Ethiopian species which form the very homogeneous group of *Tephrella* dealt with by me in the preceding paper.

***Spheniscomyia sexmaculata***, Macquart (1843).

Of this common species there is a male specimen from Nyasaland, Mt. Mlanje, 4.vii.1913 (*S. A. Neave*), and another from Natal, Port Shepstone, v. 1897 (*G. A. K. Marshall*).

***Spheniscomyia neavei***, sp. nov. (Pl. xviii, fig. 6).

A pretty species very distinct from any other in having no *sct.* and in having two hyaline indentations at the fore border of the wing. It is possible that *A. capensis*, Rond., which is described with a similar wing pattern, belongs to the same natural group as the present species.

♂♀. Length of body 2.3-2.5 mm.; of ovipositor about 1 mm.; of wing 3-3.1 mm.

Occiput entirely black, but clothed with rather dense, dark grey dust; frons reddish, with whitish orbits and black, but densely grey-dusted ocellar and orbital plates; lunula whitish, like the linear cheeks; face yellowish, with whitish dust; jowls very narrow, reddish, not spotted. Antennae entirely reddish yellow, with a shortly pubescent arista. Palpi and proboscis pale yellowish. All the cephalic bristles are black, even those of the occipital row; *oc.* well developed; two strong *i. or.*; genal bristle well developed. Thorax and scutellum entirely black and rather shining, the greyish dust of the back being very faint and even wanting on the scutellum; the bristles are black; *dc.* placed on the line of the *a. sa.*; one *mpl.*; *pt.* above as developed as the *st.*; no *a. sct.*, the *b. sct.* being very long but not diverging. The short pubescence of the back of the mesonotum is black, like the rather sparse hairs of the scutellum. Mesophragma shining black; scutellum broader than long and rather convex. Squamulae white; halteres pale yellowish.

Abdomen shining black, with black pubescence and short black bristles; venter black, but less shining; ovipositor glistening black and with black pubescence. Legs black, with yellow tibiae and tarsi; the femora are narrowly yellowish at tip, and the hind tibiae are infuscated at base; front femora with four long bristles beneath. Wings with long and strong, but simple costal bristle; the veins are black, but they are yellowish at base and on the hyaline indentations. Small cross-vein placed on the apical third of the discoidal cell, which is much broadened outwardly; hind cross-vein convex outwardly; last portions of the third and fourth veins about parallel, the former being only a little curved downwards near the end; lower angle of the anal cell acute, but not produced. The base of the wing is quite hyaline, the dividing line being straight and running obliquely from the distal end of the second costal, second basal and anal cells to the hind border; the stigma is entirely black. At the fore border there are two triangular, hyaline indentations of equal size, just beyond the stigma and reaching with their obtuse point the third longitudinal vein. The wholly black discoidal cell has near its base a rounded hyaline spot, which is above in contact with the fourth vein, while below it is distant from the fifth. At the hind border there are four hyaline indentations, disposed in pairs; two shorter and broader into the third posterior cell, reaching the fifth vein, the basal being twice as broad as the apical one; the other two into the second posterior cell, the basal one extending along the hind cross-vein (but without being in contact with it) to the fourth longitudinal vein; the apical one is curved inwardly and ends broadly obtuse at the third vein, crossing the first posterior cell in its last third. The hyaline parts are distinctly whitish; the dark parts are blackish, only the basal band below the sixth vein in the axillary cell being more greyish.

Type ♂ and type ♀, a couple of specimens from Nyasaland, Mt. Mlanje, 16.vi. 1913; an additional female specimen from the same locality, 31.v.1913, all collected by *S. A. Neave*, in whose honour this interesting species is named. In the Entomological Museum of the University of Kansas, at Lawrence, Kas., U.S.A., there is a female specimen collected by *F. L. Snow* at Salisbury, Rhodesia, 5050 ft., v. 1901; it differs in having the basal hyaline spot of the discoidal cell of greater size, extending from the fourth to the fifth longitudinal vein.

**Tephrella**, Bezzi, (1913).

**Tephrella sexfissata**, Becker (1910).

*Aciura sexfissata*, Becker, Ann. Soc. Ent. France, 1910, p. 28.

In my previous paper (Bull. Ent. Res. ix, p. 22) I overlooked this species, which is nearly allied to but distinct from *T. rufiventris*, Bezzi; it is recorded from British East Africa, Nairobi (*de Rothschild*).

IV. Subfam. TRYPANEINAE.

**Spathulina**, Rondani, 1856.

This genus, as defined by me in the preceding paper, seems to have a near ally in the South American genus *Lamproxyna*, Hendel (1914, p. 64), which shows also a shining black, not dusted abdomen, but seems to be different in the much more elongate and bicubitate proboscis, in the antennae being inserted below the middle

of eyes, etc.; moreover the type-species, *L. nitidula*, Hendel, from Peru, has a different wing pattern, with more numerous hyaline spots, which are disposed in rows along the longitudinal veins. In the new material there is the following new species, which is the first to be known from West Africa.

***Spathulina bioculata*, sp. nov.**

Closely allied to *semiatra* and running down to it in my table (1918, p. 28), but at once distinguished by the pale yellowish macrochaetae of the head and thorax, and by the presence of four (not three) hyaline spots in the second posterior cell, and of two hyaline dots in the first posterior cell.\*

♀. Length of body 2.5 mm.; of ovipositor about 1 mm.; of wing 3.5 mm.

Head not depressed, in front view about as high as broad, in side view narrower than high; it is entirely pale yellowish, more whitish on the face, and blackish but grey-dusted in the middle of the occiput; middle frontal stripe more yellow in the apical half, and there with some scattered yellowish hairs; all the bristles are pale yellowish, those of the hind border quite whitish; there are three *i. or.*, but the apical one is only half as long as the others; *oc.* long and strong; *ocp.* rather acute. Antennae pale yellowish, shorter than the face, with the pubescent third joint as long as the first two joints together and a little pointed at its upper terminal angle; arista microscopically pubescent. The hairs of the lower occipital border and of the chin are whitish. Palpi whitish; proboscis yellow, rather thick, as long as the lower border of the head, with the terminal portion thick, bent backwards and a little shorter than the basal one. Thorax black on the back, but clothed with a dense opaque, grey dust; a narrow stripe just above the notopleural line is reddish yellow; the pleurae are black, with a darker grey dust, but they are yellowish below the prothoracic stigma; the scutellum is grey on the middle, broadly yellowish at the borders and below; the mesophragma is black, clothed with a dark grey dust, like the pleurae. The short pubescence of the back is pale yellowish like that of the pleurae, which is longer and more sparse; all the bristles are yellowish; the *a. sc.* are as long as the *b. sc.* and are decussate; the *dc.* are placed before the line of the *a. sa.* Halteres whitish. Abdomen shining black, with black hairs and black bristles; the first two segments are dark reddish-brown at the sides, and the first three segments have a narrow reddish hind border; ovipositor depressed, shining black. Legs, including coxae and tarsi, entirely pale yellowish; their hairs are whitish, the spur of the middle tibiae reddish; hind tibiae with a well developed posterior row of bristles. Wings proportionally long and broad; veins pale yellowish at base and on the hyaline dots, blackish on the dark parts. Third and fourth veins distinctly diverging at the end; hind cross-vein perpendicular, a little curved outwardly and slightly longer than its distance from the small one. The pattern is as in *semiatra*, with the following differences: the subapical hyaline spot of the submarginal cell is much broader; there are two small hyaline dots in the first posterior cell, the apical one being twice as broad as that placed over the upper end of the hind cross-vein; the second posterior cell

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\* These two dots are not shown in Loew's figure, pl. ii, fig. 12; but in the description they are recorded as being sometimes present, it seems therefore that it is a somewhat variable character.



is distinctly more elongate and shows a fourth hyaline spot before its upper apical angle, a little smaller than the three others, which are disposed in a triangle; the basal hyaline spot of the third posterior cell is broadly separated from that of the axillary lobe, which shows two small hyaline dots in the dark space below the sixth vein. Alula whitish hyaline and unspotted. The costal bristle is long and black.

Type ♀, a single specimen from N. Nigeria, Zungeru, 15.ix.1910 (*Dr. J. W. Scott Macfie*).

The character of the long and decussate *a. sct.* is common to the present species and *semiatra*, Loew, and is in contrast with the other species in which these bristles are rudimentary or even wanting; in *Lamproxyna* there are likewise only two *sct.*, the apical ones being wanting. This character must also be taken with caution in my table of genera; even the character of the *i. or.* can be misleading, as in the present species there are three pairs of these bristles, while the other species have only two pairs.

### **Pliomelaena**, Bezzi, 1918.

#### **Pliomelaena brevifrons**, Bezzi (1918).

A female specimen from Natal, Port Shepstone, v. 1897 (*G. A. K. Marshall*).

### **Euaresta**, Loew, 1873.

#### **Euaresta amplifrons**, sp. nov. (Pl. xviii, fig. 7).

A robust species of comparatively large size, very near *planifrons*, Loew, but at once distinguishable by the presence of a pair only of scutellar bristles (agreeing in this with the nearly allied *megacephala*, Loew), by the striking abdominal coloration and by the somewhat different wing pattern.

♂. Length of body 7 mm.; breadth of abdomen 2 mm.; length of wing 7 mm.

Head very broad, even a little broader than the thorax, in front view broader than high, in side view about as broad as high; it is entirely yellowish, but clothed with a dense cinereous dust. Occiput concave, with a double blackish spot in the middle, above and on sides of the neck; the rather stout hairs of its lower portion are whitish, like those of the chin. Frons very broad and quite bare, about three times as broad as the eye, and even a little broader than long; it is very flat, being not produced above the eyes, but conspicuously prominent in front above the antennae; it is entirely of a reddish grey colour, the middle band being not distinct from the orbits; the small ocellar dot is blackish; lunula very well developed, broad, semicircular, rather prominent. Cheeks rather broad; face a little shorter than the frons, concave in the middle, rather prominent at the mouth-border, clothed with whitish dust; jowls twice as broad as the cheeks, a little broader than the third antennal joint. Eyes rounded. Antennae inserted a little above the middle of the eyes, very short and much shorter than the face; they are entirely yellowish; first joint with pale yellowish hairs; second joint rather prominent above; third joint shorter than the first two joints together, with the upper terminal angle rather acute; arista yellowish, thickened at base, microscopically pubescent. Proboscis thick, short, yellowish; palpi as long as the proboscis, broad, yellowish, with some bristly, yellowish hairs. All the cephalic bristles

are yellowish, those of the hind border of the head being paler; two *i. or.*, which are more developed than the *s. or.*; *oc.* about as long as the *vt.* Thorax, scutellum, postscutellum and mesophragma entirely black, but clothed with dense cinerous tomentum, which on the back is more clear and shows a little bluish nuance; the short hairs are pale yellowish, like all the macrochaetae, but those of back are darkened at the base and inserted on small blackish dots; *dc.* placed well in front, only a little beneath the line of the *prst.*; *pt.* as strong as the *mpl.*; *st.* even stronger. Scutellum bare, with the *b. sct.* only, which are long, divergent, inserted on rather large black spots and placed rather distant from the borders; there is no trace of the *a. sct.* Squamulae whitish, with a rather long whitish fringe; halteres pale yellowish, with a little infuscated knob. Abdomen broad and very obtuse at the end; it is reddish yellow above on the first three segments, and quite black on the fourth, which is twice as long as the preceding segment; all the hairs are pale yellowish, like the lateral and apical bristles; venter entirely reddish, even on the last segment; genitalia rounded, blackish brown. Legs rather short and stout; they are entirely reddish and rather bare, with whitish dust; front femora with a row of four stout yellowish bristles beneath on the apical half; hind tibiae without a distinct row. Wings with a distinct costal bristle and with yellowish veins; the distal portions of the 2nd, 3rd and 4th veins are straight and slightly divergent; cross-veins rather close together, their distance being shorter than the length of the straight posterior cross-vein, and the anterior cross-vein being placed only a little before the last fourth of the discoidal cell; lower angle of the anal cell rather acute, but less produced. The pattern is very like that of *planifrons*, but the dark patch is more reduced, not extending basally beyond the stigma, the basal portion of the submarginal cell being thus hyaline, and the point of the bifurcation of the 2nd and 3rd veins being in the shape of a conspicuous black callosity, which is very strikingly developed, while in *planifrons* it is comprised in the dark patch. The hyaline spots at the apex and hind border of the wing are of greater size, the radiating pattern being thus more developed; the discoidal cell is almost completely hyaline on its basal half; the second basal cell is quite hyaline; the dark spot at the lower end of the anal cell is less developed, and there is no dark spot at all below the end of the 6th vein.

Type ♂, a single, rather damaged specimen from Natal, Malvern, v. 1897 (*G. A. K. Marshall*).

The wing pattern of the present species is not unlike that of some species of the genus *Trypanea*, but is also very like that of *Euaresta conjuncta*, Loew. It is very probable that the present species may be galligenous, like *E. megacephala*, Loew, which in Sicily makes very conspicuous galls on the twigs of the Composite plant, *Inula crithmoides*;\* it is therefore possible that *E. megacephala*, *E. planifrons* and *E. amplifrons* will belong to a natural genus, which is biologically characterized by the faculty of making so-called pleurocecidia on Composite plants, a character rather uncommon in the present group of flower-head flies.

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\* T. De Stefani Perez, Marcellia, Avellino, iii, 1904, pp. 122-125; Trotter e Cecconi, Cecidotheca italica, Fasc. xiv, no. 326 (1906); C. Houard, Les Zoocécidies des Plantes d'Europe, etc. ii, 1909, p. 972, no. 5627.

**Ensina**, Rob.-Desv., 1830.**Ensina sororcula**, Wiedemann (1830).

Of this common species there is a male specimen from Natal, Ulundi, 5,000–6,500 ft., ix. 1896 (*G. A. K. Marshall*).

**Ensina gladiatrix**, sp. nov.

Closely allied to the preceding species, but distinguished by the infuscated antennae, the black femora which have only a very narrow yellowish tip, and by the exceedingly long ovipositor of the female.

♀. Length of body 3 mm.; of the basal segment of the ovipositor 1.3 mm., and of the completely exerted ovipositor 3 mm.; of the wing 3 mm.

Head as in *sororcula*, but less depressed and with the frons distinctly shorter; ocellar spot blackish; third antennal joint distinctly infuscated. The thorax seems to be darker and devoid of distinct pattern on the back; the pleurae are more decidedly blackish; there is no trace of *a. set.* The abdomen seems likewise to be darker above and devoid of distinct pattern; the ovipositor is shining black, depressed, with the basal segment a little longer than the whole abdomen (in *sororcula* it is about a half as long as the abdomen), the second segment shining black, the third segment reddish; if completely exerted, as in the case of the type, the ovipositor is longer than the entire body. In the legs all the femora are entirely black, having only the extreme tip narrowly yellowish, while in *sororcula* they have the apical half yellowish, and the four anterior ones are mainly or even entirely yellow. The wings are proportionally broader and have the same venation; the pattern is very similar, but the stigma is quite black, even at the base; the fuscous reticulation is more developed on the posterior half of the wing, chiefly in the discoidal and the second posterior cells; in the first posterior cell the hyaline spots are disposed in two distinct longitudinal rows, a condition which is never to be observed in *sororcula*, in which they are not very distinct, never ordinate, but are in one row only at least towards the middle of the cell.

Type ♀, a single damaged specimen from Natal, Ulundi, 5,000–6,500 ft., ix. 1896 (*G. A. K. Marshall*).

**Ensina magnipalpis**, sp. nov.

Closely allied to *dubia*, Walker and Loew, but distinguished by the hyaline spot of the stigma, and by the much less numerous hyaline spots of the first basal and discoidal cells.

♂. Length of body 3.8–4 mm.; of wing 4–4.2 mm.

Occiput black, grey-dusted above, yellowish below. Frons flat, not prominent in profile, broad, parallel-sided, about 1.5 times as long as broad; it is of a dark orange-yellow colour, but a narrow longitudinal middle stripe and the orbits are whitish; lunula broad and rounded, yellowish; cheeks narrow, with white shining dust; jowls yellowish, unspotted, as broad as the third antennal joint. Face narrower and shorter than the frons, with broad and very prominent mouth-border. Eyes in profile rounded; antennae inserted a little below their middle; they are entirely yellowish and a little shorter than the face; second joint with yellow

hairs ; third joint broad, rounded at tip, about twice the second in length ; arista microscopically pubescent. Palpi pale yellowish, with pale hairs ; they are very long and broad, flattened, as long as the basal part of the proboscis ; the latter is very long, about as long as the head and thorax together ; its basal part is produced much beyond the mouth-border, and the apical part is acute and much produced behind the chin. Bristles abraded in the type, but they seem to be whitish on the occipital border and black on the frons ; pubescence pale yellowish. Thorax clothed on the back with a dense opaque whitish-grey dust, but with a very broad even longitudinal blackish stripe, which extends laterally to the *dc.* ; a smaller lateral blackish stripe on each side above the notopleural line ; the back can therefore be described as black with two lateral whitish stripes ; the pleurae are entirely greyish and unspotted. The bristles of the back are black ; the pubescence is pale yellowish ; on the pleurae the *st.* and the *mpl.* are black, while the others are pale yellowish or whitish, like the hairs. Scutellum blackish, greyish at the end and below, with four equally long and strong black bristles, the apical ones diverging. Postscutellum and mesophragma coloured like the pleurae. Squamulae and halteres dirty whitish, the former with a white fringe. Abdomen broad and flat, grey, with two longitudinal rows of blackish spots, which are partly confluent to form two longitudinal stripes ; last segment with a broad yellowish hind border ; pubescence pale yellowish ; apical bristles black ; genitalia yellowish ; venter yellowish grey. Legs entirely yellowish, the femora more or less greyish on the outer side ; hairs and bristles pale yellowish or whitish, only the apical spur of the middle tibiae being black. Wings with a well-developed black costal bristle ; costa black on the dark, and yellowish on the hyaline parts ; veins black, in part yellowish at base and on the hyaline spots ; stigma longer than broad, deep black, with a small circular, sharply defined, whitish hyaline spot before the end. First vein ending before the small cross-vein ; 2nd vein straight ; 3rd vein bare, straight throughout and parallel with the last portion of the 4th ; small cross-vein placed considerably beyond the middle of the discoidal cell ; hind cross-vein perpendicular, convex outwardly, distinctly longer than its distance from the anterior one ; discoidal cell long ; anal cell broader than the second basal cell, with an acute but not produced lower apical angle ; 6th vein complete but colourless at the end. The pattern is blackish, more intense on the fore half, paler behind ; in general shape it is like that figured by Loew for *dubia* (pl. ii, fig. 20) with the following differences, besides the hyaline spot of the stigma ; the hyaline spots in the costal cell are broader ; in the base of the submarginal, 1st and 2nd basal and discoidal cells there are only very few, much broader hyaline spots ; the 3rd posterior cell has the reticulation closer, being fuscous with about 8 hyaline spots. The axillary lobe is likewise hyaline, with two fuscous rounded spots at the hind border ; the anal cell is also hyaline.

Type ♂, and an additional specimen of the same sex from Durban, Umbilo, 28.vi.1914 (*L. Bevis*).

These two species, *dubia* and *magnipalpis*, which agree in palpal and other characters, and have a similar wing pattern with much extended black parts, require the formation of a new genus, if they cannot be placed in the genera *Spathulina* or *Pliomelaena*.

**Ensina siphonina**, Bezzi (1918).

There is an additional specimen of this very distinct species, likewise from British East Africa, Nakuru, i. 1913 (*Dr. B. L. van Someren*).

**Trypanea**, Schrank, 1795.

Of this genus, numerous species of which are tabulated in my previous paper, there are in the new material before me two forms which are both very different in wing pattern from all the other Ethiopian species before known, and are here described as new.

**Trypanea subcompleta**, sp. nov. (Pl. xviii, fig. 8.).

Distinguishable by the four strong scutellar bristles and by the wings, which have the typical star-shaped subapical pattern, but are marked to the base with a faded but well developed reticulation, like that of the American species *abstersa*, Loew, and *reticulata*, Hendel.

♀. Length of body 3.7 mm. ; of ovipositor 0.5 mm. ; of wing 4 mm.

Head of proportionally smaller size and rather narrow in profile, with the purplish eyes higher than broad ; it is greyish, with a dark spot on the middle of the occiput ; frons about as broad as long, not at all prominent in front, with whitish dust in the middle ; lunula rather broad ; face short, not prominent below ; cheeks linear and jowls only a little broader. Antennae inserted at middle of the eyes, only a little shorter than the face, entirely yellow, with the third joint rounded at end ; arista bare. Palpi and proboscis yellowish, the latter short and retracted into the oral cavity. Cephalic bristles dark yellowish, but those of the hind border whitish ; *oc.* long and strong ; three *i. or.*, but the anterior one less than half as long as the others. Thorax blackish on the back, yellowish on the sides, but densely clothed with grey dust, opaque and unicolorous ; the short hairs are pale yellowish, the bristles dark yellowish, those of the back being inserted over small black dots ; *pt.* as strong as the *st.* ; hairs of the hind border of mesopleura rather long. Scutellum like the thorax, but broadly yellowish at the hind border ; *b. sc.* long, diverging, inserted over rather broad black spots ; *a. sc.* a little shorter, decussate, on smaller black spots. Postscutellum and mesophragma entirely grey. Squamulae whitish, halteres pale yellowish. Abdomen like the thorax, with short pale yellowish hairs and yellowish terminal bristles ; the first three segments have a rather broad yellowish hind border ; the 4th and 5th are blacker basally and more yellow apically ; ovipositor depressed, shining black, short and obtuse, a little shorter than the last two abdominal segments together. Venter pale yellowish, with whitish hairs. Legs short and stout, entirely pale yellowish ; front femora above with a complete row of short yellowish bristles, below with an apical row of four very long yellowish bristles ; spur of the middle tibiae blackish ; hind tibiae with a well developed row towards the middle. Wings long and narrow, with a distinct costal bristle and pale yellowish veins, which are infuscated on the darker parts of the pattern ; first vein ending much before the small cross-vein ; 2nd, 3rd and 4th veins straight in their terminal portions and equally and gradually divergent ; cross-veins perpendicular and parallel, the hind one being longer than its distance from the anterior one ; lower angle of the anal cell acute but less produced ; 6th

vein prolonged to the hind border. The star-shaped apical patch is blackish brown; it encloses a triangular indentation into the marginal cell, two hyaline spots near the border at end of the submarginal cell, one just below the end of the 2nd vein and the other broader and subquadrate before the end of the 3rd vein. The first posterior cell has two hyaline spots at base, the first as long as the breadth of the cell itself and in contact with the small cross-vein, the second rounded, half as long, and in contact with the 4th longitudinal vein; the cell has at the end the three usual spots, which form the two usual radiating branches; two other fuscous parallel rays are in the second posterior cell, and another less distinct ray on the hind cross-vein. The fuscous rays at the apex and hind border are therefore five in number. The basal portion of the wing shows a pale but complete reticulation, formed by rounded hyaline spots of rather large size; of these spots there is a row only in the base of the submarginal and first basal cells; the discoidal cell has a row in the basal, and two rows in the apical half; the third posterior cell has ten broader spots disposed in two rows, and along the hind border three more spots; axillary cell with six spots in two rows. The base of the second posterior cell has three spots, two larger and one small, between the ray of the hind cross-vein and the middle ray. The short stigma is quite colourless, with only a black dot near the costa at base of the costal bristle; it is not united with the subapical patch; the oblique ray departing from it and extending to the small cross-vein is very faint and belongs to the pale reticulation.

Type ♀, a single specimen from British East Africa, Nairobi, 27.iv.1911 (*T. J. Anderson*).

From *T. abstersa* (which I have in my collection from California, New Mexico and Colorado) the present species differs in the closer reticulation of the wings, in the wholly colourless stigma, and in the want of the hyaline spot in the marginal cell, just above the end of the second longitudinal vein (not to be confounded with the hyaline spot in the submarginal cell just below the end of the same vein). From *T. reticulata* it differs in the subapical brown patch being much more extended and more typically shaped.

### ***Trypanea peregrina*, Adams (1905).**

Having had occasion to see the type of this species in the Entomological Museum of the University of Kansas, Lawrence, I must recognize that it is the same as my *T. urophora* of the preceding paper, as already suspected. The figure 11 on pl. i, is too dark, the ray extending from the stigma to the small cross-vein being really much paler and interrupted. The form of the ovipositor is the same, even though it is depressed in the type of *peregrina*.

### ***Trypanea hemimelaena*, sp. nov. (Pl. xviii, fig. 9).**

A pretty species recalling *T. guimari*, Becker, from the Canary Islands, and likewise with the apical half of the wing only occupied by a not typically star-shaped pattern, which shows however more numerous hyaline spots.

♂. Length of body 3.2 mm.; of wing 3.2 mm.

Head entirely pale yellowish, clothed with whitish dust, and only narrowly blackened towards the middle of the occiput, above the neck; it is rather large,

being in front view broader than high, and in side view higher than broad; eyes greenish, unicolorous, higher than broad. Frons flat, a little prominent in front above the base of the antennae, as long as the face, with a broad bare yellow middle stripe, and with a whitish-grey ocellar triangle and lateral orbits; lunula broad, semicircular, whitish grey. Face flat, with shallow antennal grooves and the upper mouth-border not prominent, cheeks linear; jowls only about twice as broad as the cheeks, unspotted. Antennae inserted above the middle of the eyes, much shorter than the face; they are pale yellowish; third joint pubescent, with the upper terminal angle a little infuscated and not acute; arista microscopically pubescent, yellowish, thickened at base. Palpi and proboscis yellowish, the latter thick and short, retracted into the broad oral cavity. All the cephalic bristles are pale yellowish, those of the hind border whitish; *oc.* long and strong; two *i. or.*; genal bristle distinct, but short and whitish; the rather short hairs of the lower part of the occiput and of the chin are whitish. Thorax black in ground-colour but clothed with a dense grey dust, which on the back is more clear and a little yellowish, and darker on the pleurae; there is no distinct pattern on the back, except an ill-defined dark stripe below the notopleural line; all the hairs and bristles are whitish, the latter being inserted over very small but striking black dots; *dc.* placed near the suture; *pt.*, *mpl.* and *st.* well developed, but intermingled with rather long and stout hairs. Scutellum coloured like the back of mesonotum and likewise pubescent; the two basal bristles are inserted over proportionally broad dark spots; the apical bristles are medium-sized and decussate at the end. Postscutellum and mesophragma clothed with a dense grey (not yellowish) dust. Squamulae and halteres pale yellowish. Abdomen elongate and rather attenuate at the end; it is densely tomentose like the back of the mesonotum (in *guimari* it is less tomentose, the black ground-colour being visible) and clothed with rather long pale yellowish hairs; hind border of the first two segments distinctly yellowish; venter blackish, with short scattered whitish hairs; genitalia black. Legs rather short and stout, entirely reddish, the front coxae grey-dusted; they are clothed with a short whitish pubescence; front femora with five stout yellowish bristles beneath; hind tibiae with no distinct row. Wings proportionally short and broad, with a distinct costal bristle and pale yellowish veins, which are blackened on the apical half; 3rd and 4th veins straight and a little divergent at the end, while the 2nd is more strongly divergent from the 3rd; cross-veins straight and parallel, the small one placed near the last fourth of the discoidal cell, the posterior one longer than its distance from the small one; lower corner of the anal cell forming a wide angle; 6th vein prolonged to the hind border, even if very faint. The stigma is very short and pale yellowish, with a small black dot near the base of the costal bristle; the first vein ends much before the small cross-vein (in *guimari* it ends below or only a little before it). The basal half of the wing is entirely whitish hyaline and quite unspotted. The apical part is occupied by a dark brown patch, which is less dark towards the hind border, and has a yellowish patch on the small cross-vein into the end of the first basal cell, prolonged above into the submarginal cell towards the stigma. In the brown patch there are the following hyaline spots; two spots close together in the marginal cell just beyond the stigma, the first very broad

and subquadrate, the second much narrower and subtriangular; in the submarginal cell there are three rounded spots, one in the middle just above the upper end of the small cross-vein and at the inner end of the upper part of the yellowish patch, the other at the fore border just below the tip of the 2nd vein, the third of greater size and subtriangular just before the lower apical angle. The first posterior cell has a rounded spot near the base, half as broad as the distance between the 3rd and 4th veins and in contact with this last vein before the upper end of the hind cross-vein; two other spots before the end, one over the other, that in contact with the 3rd vein being smaller than that in contact with the 4th; and one apical, extending from the 3rd to the 4th vein, and thus forming the normal apical dark fork of the *Trypanea*-pattern, though a little shorter than usual. Discoidal cell with four about equally small, rounded spots, disposed as a square. Second posterior cell with three larger rounded spots along the hind border, of an indentation-like shape, and one of equal size near its upper inner angle. Third posterior cell with a single rounded spot of greater size before its lower apical angle and in contact with the hind border of the wing.

Type ♂, a single specimen from the Gold Coast, Aburi, 1912-13 (*W. H. Patterson*).

Owing to the great affinity of the present species with *T. guimari*, which shows a very remarkable sexual dimorphism, it is possible that the unknown female has a somewhat different wing pattern. These two species, like *T. peregrina*, belong evidently to the *gnaphalii-mamulae* group.

#### V. Subfam. SCHISTOPTERINAE.

This peculiar subfamily is represented in the new material before me by two remarkable forms, one of which requires the formation of a new genus, while the other, being closely allied to *Rhabdochaeta spinosa*, Lamb (1914), from the Seychelles, may be provisionally placed in the Oriental genus *Rhabdochaeta*, de Meij.

An important character of the subfamily is that the *s. or.* are placed on a line converging towards the centre of the frons, being thus not in the same line with the *i. or.*

#### **Perirhithrum**, gen. nov.

This new genus is more closely allied to the Oriental *Rhabdochaeta* than to the Ethiopian genera *Schistopterum* or *Rhochmopterum*, but differs from all the known genera of the subfamily in having the first and third longitudinal veins bristly above, in having a produced lower angle in the anal cell and in having a very oblique hind cross-vein.

From *Rhabdochaeta* the new genus differs in the want of the middle pair of bristles on the frontal stripe. These bristles are likewise wanting in *Schistopterum* and are not mentioned for *Rhochmopterum*; they are recorded for the type species of the genus *Rhabdochaeta*, as well as for the species *spinosa*, Lamb, and are present also in my species *bakeri* from the Philippines. This pair of bristles seems to correspond to the crossed frontal pair of the ANTHOMYIIDAE: but in *Rhabdochaeta* they are not crossed. It is interesting to note the presence of a similar pair of bristles in the male of *Euribia perpallida*, Bezzi (as pointed out by me in vol. ix, p. 35, note), the wing-pattern of which rather recalls that of the SCHISTOPTERINAE.



Body robust, of comparatively large size, with strong bristles of different coloration, but not of different kind. Head in front view broader than high, in side view rather narrow. Eyes bare, of large size, distinctly higher than broad. Occiput rather flat and not swollen below. Frons about as long as broad, with nearly parallel sides, not at all prominent in front; middle band devoid of central bristles; lunula rather small and deeply excavated. Face shorter than the frons, concave in the middle and with a very prominent border at the upper mouth-edge and at the sides of the mouth; cheeks linear; jowls very narrow. Antennae inserted at middle of the eyes and as long as the face; first joint very short; second joint prominent above and there clothed with short obtuse stout bristles; 3rd joint about as long as the first two joints together, of a rectangular shape, with the upper terminal angle acute but not very prominent; arista longer than the antennae, with rather long pubescence. Mouth-opening broadened anteriorly; palpi long, flattened, bristly, prominent and of the usual shape for the subfamily; proboscis short, with short and broad terminal flaps. Occipital row formed by stout obtuse whitish bristles; inner *vt.* very long; *oc.* long and strong, widely distant from each other at the base; two *s. or.*, not in the same line with the three *i. or.*, but converging in front and thus the anterior pair about in front of the *oc.*; middle frontal band bare; genal bristle strong; lower portion of the occiput with scattered stout hairs. Thorax about as long as broad, moderately convex above, with sparse scattered pubescence, even on the pleurae. Chaetotaxy complete, but with no distinct *scp.*; *dc.* placed near the suture and a little before the line of the *a. sa.*; one *mpl.*; *pt.* a little weaker than the *st.* Scutellum broadly triangular, gently convex above, clothed with sparse hairs; *b. sc.* long and diverging; *a. sc.* well developed, but broken in the type. Abdomen elongate, narrower than the thorax, nearly bare above and on the sides, with some rather stout bristles at the end; male genitalia globose and rather prominent downwards. Legs rather slender, the femora not incrassated; front femora with a complete row of strong bristles below; middle tibiae with a single spur; hind tibiae with no distinct row on the outer side. Wings rounded and very broad; costal bristle well developed, with a second much smaller one before it; there is also a group of 4-5 short bristly hairs at the costa near the humeral cross-vein and its incision. The incision at the end of the auxiliary vein is present, but much shorter and less prominent than typically. Auxiliary vein well developed, but ending at a straight angle and there evanescent; first vein ending about at middle of the fore border and distant from the costa (the costal and subcostal cells being thus very broad), and suddenly bent forwards at tip; it is clothed with bristles, which on its terminal part are very long. Stigma distinct, about as broad as long. Second vein long, straight, a little bent forwards at the apex, ending nearer to the end of the 3rd than to that of the first vein. Third vein quite straight, clothed with short bristles to the middle of its last portion; the submarginal cell is greatly widened at the end, because the 2nd vein is strongly divergent from the 3rd, which is parallel with the longitudinal axis of the wing. Fourth vein likewise straight and in its last portion quite parallel with the last portion of the third. Small cross-vein normally developed, straight, perpendicular, about as long as its distance from the upper end of the hind cross-vein; it is placed near the terminal third of the upper border

of the discoidal cell, but near the middle of the lower border of the same cell. Cubital fold well developed and forked outwardly, evenly chitinised. Hind cross-vein broadly S-shaped, but placed very obliquely so that its upper end is near the middle of the wing, while its lower end is very near the end of the fifth longitudinal vein; the lower external angle of the discoidal cell is therefore very acute and much produced outwardly. Anal cell broad, with its lower outer angle acute and produced longer than the 2nd basal cell; sixth vein prolonged to the hind border of the wing. Axillary lobe broad and rounded, with a distinct long axillary vein; alula well developed, rounded. The wing pattern is a very characteristic one, consisting of a broad, light brown patch, occupying the middle and extending over the whole hind portion of the wing, except the apex; this patch shows black spots, shining "bullae" and subhyaline spots near the hind border; from this patch depart numerous long rays, which extend to the costa along the entire fore border and the entire apex.

Type: the following new species.

**Perirhithrum marshalli**, sp. nov. (Pl. xviii, fig. 10).

A strange and beautiful insect of comparatively large size, strikingly distinguished by the very peculiar wings.

♂. Length of body 5.5 mm.; of wing 5.5 mm.; breadth of wing 3 mm.

Head yellowish, darkened towards the middle of the occiput. Frons with a dark ocellar spot and with a transverse dark band in front before the lunula. Antennae reddish yellow, with the third joint blackened along its upper border; arista whitish, cheeks white, with a small deep black, rounded spot above on each side, near the roots of the antennae; jowls yellowish, with a reddish spot on each side in front; face yellowish, darkened towards the middle. Eyes reddish brown and apparently unicolorous. Palpi whitish at base, reddish yellow on the apical half, and clothed there with short black bristles; proboscis reddish yellow. The *ocp.*, the outer *vt.* and the *pvt.* are whitish; the long inner *vt.* are black, while the *oc.* are pale yellowish; the long and strong *s. or.* are black with a brownish end and are inserted over distinct, black, slightly prominent tubercles, like the first (or inner) of the *i. or.*, which is likewise black with a brownish tip; the two apical pairs of the *i. or.* are on the contrary shorter and whitish. The genal bristle is black, while the rather long, bristly hairs near it on the chin, and those on the lower part of the occiput, are whitish. Thorax on the back black in ground-colour, but covered with dark grey dust; the suture is broadly interrupted in the middle, with whitish dust on the sides and has inwardly a brownish transverse band, which is interrupted towards the middle; the points of insertion of the bristles are darker and spot-like, and there are in the centre two dark brownish rounded spots, one on each side, interiorly and posteriorly of the anterior *dc.*; the back is denuded in the type, but in front of the scutellum it shows rather long and scattered whitish hairs. The pleurae are yellowish near the sutures and towards the breast, but are darkened towards the centre of the sclerites; they are clothed with a whitish-grey dust. All the macrochaetae are pale yellowish, but those of the back are distinctly black at base, though less so in the case of the *mpl.* and *st.*, while the *pt.* is entirely whitish. Scutellum coloured like the back of the mesonotum, but less obviously

yellowish on the sides and below; the *b. sct.* are very long, pale yellowish, with a black base, and are inserted on a small black dot; the *a. sct.* are wanting in the type. Postscutellum and mesophragma blackish, grey-dusted. Halteres with yellowish stalk and blackish knob. Abdomen reddish, with pale grey dust; each segment bears on each side a very broad, brown spot, which is rectangular in shape on the three basal segments, while it is subquadrate on the fourth; it could be said that each segment is brown, with a narrow whitish hind border and a whitish middle line; each segment bears moreover on the sides, in the whitish portion, a smaller dark spot, and the 4th segment is broadly yellow at the hind border. The entire abdomen seems to be bare, with only a few scattered short black hairs on the sides of the segments, chiefly of the last one, which bears moreover 8–10 not long but strong, black bristles at the hind border and on the sides. Genitalia reddish yellow; venter entirely reddish, with whitish dust and sparse whitish hairs. Legs entirely pale yellowish, even to the end of the tarsi, but each femur is adorned below with two rounded dark spots, one near the base, the other towards the middle; the hairs and bristles of the front femora are pale yellowish, while the posterior femora have blackish pubescence and some dark bristles at the end above; middle tibiae with a dark spur. The wing veins are yellow but darkened on the darker parts of the pattern, and more strikingly on the costa, which is alternatively black and yellow. The short costal bristles near the humeral cross-vein are yellowish, while the two costal bristles at the stigma are black, like the bristles on the 1st and 3rd longitudinal veins. The pattern is brownish, more blackish at the end of the rays of the fore border and on several of the central spots; the membrane is iridescent, quite hyaline on the fore border and at the apex, while the hyaline spots of the hind border are more whitish. The radiating part shows the following dark rays, which become progressively longer from the base to the apex of the wing; one at the extreme base of the first costal cell; one like a narrow border of the humeral cross-vein; two in the second costal cell, one broader near the base, and one narrower but darker beyond the middle; one narrow and greyish along the diffuse terminal part of the auxiliary vein; three blackish, close together and very marked on the stigma, the first and broadest of all at the base, the second in the middle, the third and narrowest along the terminal part of the first vein. In contact with the last of these rays there is a broader triangular greyish ray departing from the fuscous base of the marginal cell and showing some small, subhyaline, whitish streaks on its base. This ray is followed by two other parallel rays at equal distances in the marginal cell itself; these two rays are narrower and bent a little outwardly, and have their central stripes whitish hyaline. There are subsequently two dark rays in the submarginal cell, narrow and full, one ending at the end of the second vein, the other ending at middle of the distance between the tips of the 2nd and 3rd veins; the 1st posterior cell has likewise two narrow rays which follow exactly the two external branches of the cubital fork, ending at the tips of the 3rd and 4th veins; the 2nd posterior cell has the last three rays, which are less sharply defined, the last one being even hardly distinguishable from the dark patch; they are more irregular and sinuous and enclose two small, hyaline spots and a hyaline streak at the base. On the disc of

the wing there are: (1) the blackish patches, two of which more striking and more defined are of subquadrate shape and placed one in the submarginal cell before the small cross-vein, and the other near the base of the first posterior cell, just above the upper end of the hind cross-vein; (2) the shining "bullae," the more distinct of them being placed around the small cross-vein at unequal distances to form a kind of circle: one in the first basal, one in the submarginal just above the small cross-vein, two in the first posterior above and in front of the black spot, and one in the discoidal cell, at some distance below the above-named black spot. There are moreover some other "bullae," one at the extreme base of the submarginal cell, and one at the extreme base of the discoidal cell extending into the end of the 2nd basal cell. The 3rd posterior cell and the axillary lobe are entirely and evenly infuscated and show some hyaline spots forming a kind of reticulation; 9 of these spots are placed into the axillary cell, 4 above and 5 below the axillary vein, and 7-8 are placed in the 3rd posterior cell, those near the apex being more stripe-like. The hyaline parts of the stigma are colourless, like the corresponding ones of the 2nd costal or marginal cells. The basal and anal cells are infuscated to the base, only the extreme base of wing and the alula being greyish hyaline.

Type ♂, a single partly damaged specimen from Natal, Port Shepstone, v. 1897: another of the interesting discoveries of *Dr. G. A. K. Marshall*, in whose honour the species is named.

### **Rhabdochaeta neavei**, sp. nov.

About the same as *R. spinosa*, Lamb, from the Seychelles, but seeming to differ in the wing pattern, which is yellowish brown, not black, and shows therefore a very remarkable deep black spot at the base of the first posterior cell, just beyond the small cross-vein.

♀. Length of body 2.2 mm.; of ovipositor 0.8 mm.; of wing 3 mm.

Head yellowish, with the occiput darkened towards the middle; frons yellow on the apical half, with whitish orbits and a blackish ocellar dot; cheeks whitish, with a small, rounded, rather prominent, deep black dot above, between the root of the antenna and the eye; face whitish, with a brown transverse band above the mouth-border; jowls very narrow and unspotted. Antennae pale yellowish at base, with the 3rd joint more yellow, very attenuated and very acute at the end; arista whitish, shortly pubescent. Palpi and proboscis dirty yellowish. Middle frontal stripe bare, but with a pair of white bristles in the middle. Cephalic bristles pale yellowish, the *or.* and the inner *vt.* darkish at base; those of the hind border are whitish; two *s. or.* and three *i. or.*, counting that placed far in front, just above the black dot of the cheeks; the stout short hairs of the lower part of the occiput are whitish. Thorax black in ground-colour, but densely clothed with grey dust, which is darker on the pleurae; humeri and notopleural region yellowish; on the back there are distinct black spots on the points of insertion of the macrochaetae, those of the *prsc.* being the most developed; the short hairs are pale yellowish; the dorsal macrochaetae are distinctly blackened at the extreme base, but are elsewhere yellowish; the pleural macrochaetae are

entirely pale. Scutellum like the back of the mesonotum, but broadly yellowish at the sides and behind; the *b. sct.* are blackish at base and inserted over black spots; the *a. sct.* are much smaller, decussate at the end, not darkened at the base and not inserted on black spots. Postscutellum and mesophragma black but clothed with grey dust, which is darker on the former. Squamulae and halteres whitish. The abdomen seems to be differently coloured from that of *spinosa*, being entirely reddish, with the base of the first two segments narrowly blackish; hairs and bristles pale yellowish; ovipositor broad, flattened, with the basal segment shining reddish with black end. Legs pale yellowish, with dark pubescence and whitish bristles; front femora beneath before the end with a blackish spot, forming an incomplete ring, and there with blackish bristles; the four posterior femora have this spot more developed, and have moreover a similar but more elongate spot near the base; all the tibiae have a narrow black ring near the base, less developed on the front pair; hind tibiae with a short but distinct posterior row of bristles. The wings are shaped as in Lamb's figure 13, p. 321; they have the same venation, with a deeply sinuous fourth longitudinal vein and a nearly straight hind cross-vein; in the Oriental species *pulchella* and *venusta* the fourth vein is almost straight, but the hind cross-vein is likewise about straight; in *bakeri* the fourth vein is straight, while the hind cross-vein is broadly S-shaped and oblique. The veins are bare, as stated by Lamb; but on the third vein I can perceive some scattered, almost microscopic, black bristles. The general shape of the pattern is the same; it is however not black, but yellowish brown; the shining "bullae" are of the same number and have the same disposition; but the wing pattern being more clear, the black spot at the base of the first posterior cell is very striking; it is placed below the basal "bulla" of the same cell, and bears at base a small rounded whitish-hyaline dot, corresponding to that figured by Lamb at the inner basal angle of the first posterior cell. Other differences are: (1) the marginal cell has no hyaline spots in the fuscous part at the base of the radiating streaks; (2) the hyaline dots in the submarginal, first basal and first posterior cells are less numerous and much smaller. It must be remarked that in the present species, as well as in *spinosa*, the costal nick, even if distinct, is much less developed than in *pulchella* and *bakeri*; de Meijere's figure of *venusta* shows it however not developed.

Type ♀, a single specimen from Nyasaland, S.W. of Lake Chilwa, 13.i.1914, collected by *S. A. Neave*, in whose honour the species is named.

Two species of *Euribia*, *perpallida* and *discipulchra*,\* both likewise from Nyasaland, show a very remarkable affinity with the above-described species of *Rhabdochaeta*, and are perhaps allied; but they have different wing pattern, unicolorous legs, etc.

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\* Bull. Ent. Res. ix, 1918, pp. 35, 36.